

Consumers' Research Bulletin



February 1950

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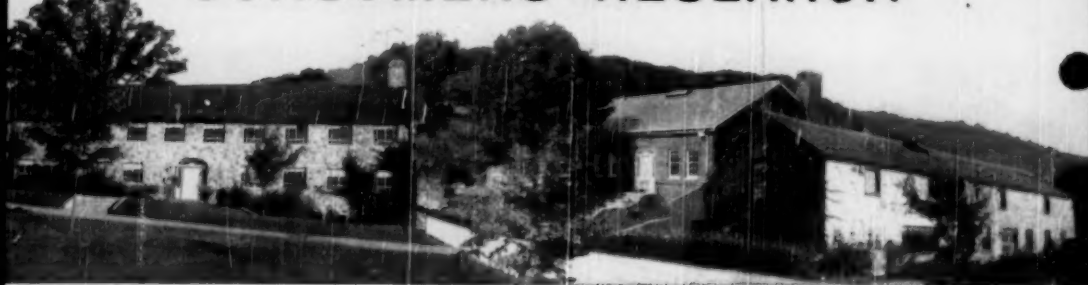
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CONSUMERS' RESEARCH



Vol. 25 • No. 2

BULLETIN

February 1950

Off the Editor's Chest

SCIENCE in these days of nuclear fission, the atom bomb, and the promise of atomic power plants in the foreseeable future takes on the aspect of magic or necromancy in the mind of the person who is unfamiliar with the scientific method. Sensational claims for particular products that overplay or distort scientific findings are in part responsible for the layman's feeling that all that is needed for the solution of a certain problem is for one or more white-coated scientists to get together and meditate on the matter, and, in due course, they will be able to pull a solution, or perhaps a great new scientific discovery, out of a hat. The illusion of ease and simplicity of doing scientific work if only a big modernistic laboratory and a half million dollars worth of instruments is at hand is fostered by the facility with which a person without technical training is able to operate such complex devices as a miniature camera, a high-fidelity radio, or television set. All he has to do is to press a button, turn a switch or dial and, presto, he obtains results that have taken years, perhaps even a generation, of advanced scientific training and careful experimentation and hundreds of thousands of dollars to produce.

The importance of the role played by vitamins in human nutrition has been exploited extensively

by the distributors of vitamin pills, to the extent that there was a time when many people believed that about all they had to do was to take the right combination and amounts of vitamins to cure whatever ailed them. Current research in the field of nutrition, however, is bringing to light the fact that the right amino acids (and enough of them, as present naturally in foods), a comparatively recent discovery in nutrition, are more essential for physical well-being than vitamins.

Tooth decay is a human ailment that is the subject of intensive research. Not so long ago it was thought that fluoride tablets or bone-meal preparations taken internally might be effective in preventing or reducing dental caries. The best advice on the subject at present is that such preparations have not been proven to be effective. Currently there is quite an advertising campaign being put on for dentifrices containing carbamide (synthetic urea) and dibasic ammonium phosphate as providing some sort of magical protection for the teeth. The researches in this field are, however, still incomplete and many experiments and observations will need to be made before it can be known with certainty whether the ammoniated dental products are effective at all in preventing or inhibiting tooth

(Continued on page 18)

Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit and solely with the funds they provide (not for business or industry), CR carries on tests and research on a wide variety of goods, materials, and appliances and publishes the findings in CR Bulletin. CR, a non-profit institution, is organized and operates as a scientific, technical, and educational organization.

Scientific and Technical Staff and Editors: F. J. Schlink, R. Joyce, Dwight C. Aten, M. C. Phillips, Erma A. Hinek, and A. R. Greenleaf. Editorial Assistants: Mary F. Roberts and B. Beam.

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; a quality judgment is independent of price; 49, 50—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least 5 weeks before it is to take effect, accompanying your notice with statement of your old address with name in full. At least a month's notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel.

*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

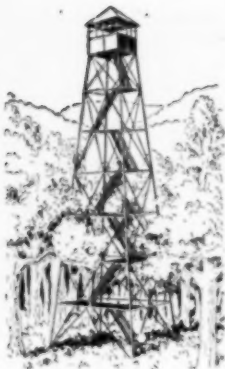
★ ★ ★ For a brief cumulative index of 1950 BULLETINS preceding this issue, see page 20.

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The Consumers' Observation Post

ADVERTISEMENTS offering rebuilt vacuum cleaners and sewing machines at low prices are usually merely "bait" to lure a prospect within talking distance of well-trained salespeople whose real objective is to sell something else at a higher price, the St. Louis Better Business Bureau warns. In a study of 100 instances in which women responded to such bargain advertising, the Bureau found that every effort was made to discourage sale of the particular product in which the prospective customer was interested,

including such tactics as: selecting a noisy, dilapidated machine to demonstrate, pointing out the numerous defects of the advertised bargain machine and contrasting its performance with a new one at a higher price, stressing the limitations of the guarantee on the "rebuilt job," and suggesting that on the prospective buyer's fine rugs she would need a better machine than the one she came to inspect. If all else failed, the salesman would usually suggest that she take advantage of a special turn-in allowance for her old cleaner on the purchase of a new machine. The consumer who goes after such a bargain appliance will need to have considerable determination and sales resistance.

* * *

SOUP OR CHOWDER served as the main dish for lunch is insufficient food for the average school girl or boy. In a study published by the Maine Agricultural Experiment Station, researchers Mary M. Clayton and Dorothy E. Ullman reported that girls and boys who ate a school lunch consisting mainly of soup were inclined to feel hungry in the middle of the afternoon and were prone to satisfy their appetites with candy or other sweets. Furthermore children who did not receive a good substantial lunch that included foods of high caloric value were given to supplementing their meal with ice cream, cookies, and candy, and by so doing increased their consumption of refined sweets to the possible detriment of their teeth. The results of the study indicated that the hot school lunches as they were being served in the schools surveyed were not meeting the high food requirements of teen-age students, although they were much more adequate than box lunches and store lunches. If the Maine results are typical, it would appear that school children are just not getting enough to eat of foods of the right quality and in proper amounts.

* * *

AUTOMOBILE TRAILERS present hidden electrical shock hazards that are difficult to detect and correct. In a recent news letter of the Louisiana Rating & Fire Prevention Bureau, the tragic death of a 14 months infant is reported which was caused by electrocution from contact with the door of an aluminum trailer. The Bureau pointed out that it is hard to devise a safe wiring system for trailers in view of the fact that the jolting of highway travel to which they are subjected causes abrasion of insulation, and as a result a live wire may come in contact with the metal of the frame. The trailer owner who wishes to avoid the hazard of electrical shock should make certain that the trailer's chassis is securely grounded.

* * *

GASOLINE would be 5 cents a gallon cheaper than it was 30 years ago, if it were not for the various taxes on it, reports the American Petroleum Institute. Taxes at present average over 6.3 cents a gallon.

* * *

SMOG FROM FACTORY SMOKE and fumes is not only objectionable to human beings, but it has damaging effects on vegetables and other plants grown in the vicinity of large cities, according to Science News Letter. In such areas it has been discovered that the growing of plants in greenhouses has become increasingly difficult. In the smog-ridden Los Angeles area, a brown-spot injury

to such leafy vegetables as spinach, endive, and romaine has been observed which renders them unsalable. The experts have not yet determined just which air-borne contaminants are responsible for the damage.

* * *

"PLUMBER TROUBLE," delays, overcharges, or flat refusals to install piped appliances are held responsible by Electrical Merchandising for the difficulty dealers in certain parts of the country are having in selling appliances such as dishwashers, garbage disposal units, and water heaters, as well as automatic washers and air-conditioning equipment. Of 911 dealers queried by the magazine, about one-third indicated that plumbers would refuse to install appliances which they had not sold themselves, and 54 percent of the dealers felt that the plumbers charged more for installing dealer-sold appliances, sometimes to the extent of adding 40 percent to the selling price. There was widespread complaint that plumbers utilized health ordinances and regulations to force sales their way. The areas which are most victimized by such practices are reported to be Illinois and near-by states, and Colorado.

* * *

LETTERS addressed to Barbara Taylor, Consumers' Research Institute, New York, have been received by CR in considerable number during the past month. One letter writer opens with the statement: "I've been receiving circulars, questionnaires and a few samples thru Consumers Research for which I sincerely thank you." Since there is no one on CR's staff by the name of Barbara Taylor, and we do not send out samples of products, or give gadgets as premiums for filling out questionnaires, and have no New York office, we judge that we have been receiving a considerable amount of mail that has been misaddressed. We have in the past warned subscribers that our name has been misleadingly used in obtaining information for various consumer preference questionnaires, and no doubt a name similar to CR's is being used again by some market survey organization. The most recent job that has been confused with Consumers' Research, Inc., apparently deals with insecticides. If Barbara Taylor will identify herself, we shall be pleased to send her some 12 or 15 communications belonging to her misnamed organization. CR subscribers are urged to report to us and to their local Better Business Bureau anyone who conducts any form of solicitation or "market survey" activity in the name of Consumers' Research or a name of closely similar sound or meaning for any purpose whatsoever. We have no representatives of any kind, and if anyone claims to be our representative, it is important to let us know at once, so that we can take necessary steps to correct the misrepresentation.

* * *

TIRE RECAPPING is on the increase and, in November 1949, was reported by Motor Age to be at the highest level since the war forced many motorists to use recapping as a means of extending tire life. One company claims that the increase is due to the improvement in the compounds used. Possibly the fact that tire manufacturers have been raising their prices may also be a factor in the consumer's desire to extend the mileage life of his old tires.

* * *

TRAVELING BY PLANE can be quite uncomfortable for individuals afflicted with heart trouble, high blood pressure, lung disorders, and intestinal ulcers, comments medical columnist Dr. Theodore R. Van Dellen. In some cases, air travel for those suffering from such ailments may be disastrous. The doctor points out that flying involves altitude and motion; altitude involves decreased oxygen and lower temperatures. Persons suffering with asthma should avoid an air trip during a severe phase because of the decrease in oxygen supply. Even a person with a head cold is advised to travel by other means than a plane, for the change in atmospheric pressure may force an infection from the pharynx into the ears and sinuses.

* * *

AN ARTIFICIALLY COLORED ORANGE DRINK, containing water, orange juice, orange oil, sugar, and lactic acid, called Bireley's Orange Beverage, has been in trouble with the Food and Drug Administration. It was held by the F. & D. Administration to be adulterated on the ground that it appeared to be better than it was, and the government introduced a consumer opinion poll in the court proceedings to show that mothers had fed it to their babies in the belief that it was natural orange juice. In a test case brought in the U. S. District

(The continuation of this section is on page 29)



Fownes, Pigskin



Gates, Swagger Fit, Pigskin



*Daniel Hays
"Finger Free," Pigskin*



Bacmo, Pigskin



Pilgrim Bacmo, Pigskin



Chesterton, Pigskin



Meyers Make, Pigskin



*Montgomery Ward's
Cat. No. 35-2467, Pigskin*

Men's Gloves

GLOVES should be well made, of a durable and flexible material, for they are worn not only as a fashionable clothing accessory but also as a protection for the hands.

Leather for gloves should be sturdy enough for durability, yet soft and pliable and thin enough for comfort. Grain-finished leather (leather finished on the hair side) is more durable than suede or velvet-finished leather (leather finished on the flesh side), and is the most popular for general wear. The leather should be cut so that there are no visible imperfections to mar the gloves' appearance.

The method of tanning the leather has a great deal to do with the qualities of the finished product. Some leathers have been so tanned and dyed that they are washable, but the consumer has no way of knowing this unless the gloves are marked by the manufacturer.

In CR's tests, the leather of the gloves was examined for softness and pliability and imperfections, and given tests to determine bursting strength and other properties.

All gloves were found poor with respect to dry crocking (rubbing off of color on a dry cloth) and to wet crocking (rubbing off of color on a wet cloth) except some of the pigskins, as noted in the listings.

All the leathers were satisfactorily colorfast to cold water except as otherwise noted in the listings. A standard test was applied to determine the change in stiffness of the leather from being wetted in cold water, but in this particular group of gloves, there was found to be no appreciable difference in the stiffness of the leather before and after wetting.

The gloves were measured and examined for workmanship and construction. All gloves had Bolton (English) thumbs (the thumb quirk cut in one piece with the back and palm of the glove), except the two Daniel Hays "Finger Free" gloves (on these, the inside portion of the thumb is part of the same piece as the narrow strip of leather on the outside of the first finger of the glove). The kind of seams (outseams or overseams) used is noted in the listings.



Four of the fabric test squares from wet crocking test. Dark areas in center are marks left after the dampened cloth squares had rubbed over a strip of the glove leather 40 times.

Outseams are made with the cut edges on the outside of the glove, leaving the raw edges showing. Usually fine stitches are sewn horizontally through these edges. This kind of seam is both durable and popular for sports gloves.

Overseams are made with the cut edges placed together on the outside of the glove as in the overseam, but an overstitch is used the entire length of each seam so the raw edges are not left showing. The overseam construction has a disadvantage in that if one or two stitches break, the entire seam may open.

Bursting strength tests were made of the linings of the wool-lined and fur-lined gloves to determine their probable durability in service.

All gloves were slip-on style except as noted.

Pigskin Gloves

A. Recommended

Fownes (Fownes Bros. & Co., 411 Fifth Ave., New York 16) \$5.95. Soft and pliable with a good feel; 2 slight imperfections on left glove. Outseams. Bursting strength, good. Colorfastness to wet crocking, good. Workmanship and appearance, judged good. **1**

Gates, Swagger Fit (Gates Mills Inc., Johnstown, N.Y.) \$8.95. Soft and pliable with a good feel; one surface imperfection on each glove. Outseams. Bursting strength, good. Colorfastness to wet crocking, good. Workmanship and appearance, judged good. **2**

Daniel Hays "Finger Free" (Daniel Hays Co., Gloversville, N.Y.) \$13.50. Soft and pliable with a good feel. Outseams. Bursting strength, very good. Colorfastness to wet crocking, fair. Workmanship and appearance, judged very good. **3**

B. Intermediate

Bacmo (Bacmo-Postman Corp., 244 Madison Ave., New York 16) \$5.98. Soft and pliable with a good feel; several slight surface imperfections on each glove. Outseams. Bursting strength, very good. Colorfastness to wet crocking, fair. Workmanship and appearance, judged poor. **1**

Pilgrim Bacmo (Sears-Roebuck's Cat. No. 33-2445) \$4.94, plus postage. Soft and pliable with a good feel; 7 bad imperfections on left glove, a small cut on right glove. Outseams. Bursting strength, fairly good. Colorfastness to wet crocking, good. Workmanship and appearance, judged fair. **1**



Pilgrim, Wool Lined



Gates, Swagger Fit, Wool Lined



Brent, Wool Lined



Daniel Hays
"Finger Free," Wool Lined



Meyers Make, Wool Lined



Pilgrim, Fur Lined



Fownes, Fur Lined



Hansen, Fur Lined

Chesterlon (The Superb Glove Co., Johnstown, N.Y.) \$7.50. Fairly soft and pliable but had slight "papery" feel; one slight imperfection on left glove. Outseams. Bursting strength, fairly good. Workmanship and appearance, judged good. **2**

Meyers Make (Louis Meyers & Son, Inc., 1 Park Ave., New York 16) \$8.95. Wrist length gloves, with snap. Fairly pliable but had slight "papery" feel; 2 slight imperfections on each glove. Outseams. Bursting strength, good. Colorfastness to wet crocking, fair. Workmanship and appearance, judged fair. **2**

C. Not Recommended

Montgomery Ward's Cat. No. 35-2467. \$4.93, plus postage. Fairly pliable but had slight "papery" feel; a considerable number of slight surface imperfections on each glove. Overseams and outseams. Bursting strength, lowest of all pigskin gloves tested. Colorfastness to wet crocking, good. Workmanship and appearance, judged fair. **1**

Wool-Lined Gloves

A. Recommended

Pilgrim (Sears-Roebuck's Cat. No. 33-2510) \$4.94, plus postage. Grain-finished leather, fairly soft and pliable, but with a slight "papery" feel. Overseams. Bursting strength of leather, good; of wool lining, poor. Workmanship and appearance, judged good. **1**

Gates, Swagger Fit (Gates Mills, Inc., Johnstown, N.Y.) \$9.95. Grain-finished leather, soft and pliable with a

good feel; several very slight imperfections on each glove. Outseams. Bursting strength of leather, good; of wool lining, fair. Workmanship and appearance, judged good. **3**

B. Intermediate

Brent (Montgomery Ward's Cat. No. 35-2560) \$3.98, plus postage. Buckled glove, with snap. Grain-finished leather, fairly stiff and with a rather harsh feel. Overseams. Bursting strength of leather, good; of wool lining, good. Workmanship and appearance, judged poor. **1**

Daniel Hays "Finger Free" (Daniel Hays Co., Gloversville, N.Y.) \$7.50. Smooth grain-finished leather, very pliable and soft with a good feel. Outseams. Bursting strength of leather, fair; of wool lining, fair. Workmanship and appearance, judged good. **2**

Meyers Make (Louis Meyers & Son, Inc., 1 Park Ave., New York 16) \$7.50. Wrist length glove, with snap. Imitation pigskin, soft and pliable with a good feel. Outseams. Bursting strength of leather, fairly good; of wool lining, poor. Workmanship and appearance, judged fair. **2**

Fur-Lined Gloves

A. Recommended

Pilgrim (Sears-Roebuck's Cat. No. 33-2602) \$4.94,



Brent, Fur Lined



Daniel Hays, Fur Lined



Meyers Make, Fur Lined

plus postage. Grain-finished leather, soft and pliable with a good feel. Outseams. Bursting strength of outside leather, good; of fur lining, good. Workmanship and appearance, judged good. 1

Fownes (Fownes Bros. & Co., 411 Fifth Ave., New York 16) \$6.95. Imitation pigskin-finished leather, soft and pliable with a good feel. Overseams. Bursting strength of outside leather, fair; of lining, fair. Workmanship and appearance, judged good. 2

Hansen (Hansen Glove Corp., Milwaukee 1) \$8.50. Grain-finished leather, soft and pliable with a good feel. Overseams. Bursting strength of outside leather, good; of lining, fair. Colorfastness to cold water, fair. Workmanship and appearance, judged good. 2

B. Intermediate

Brent (Montgomery Ward's Cat. No. 35-2566) \$4.98. plus postage. Buckled gloves, with snap. Grain-finished

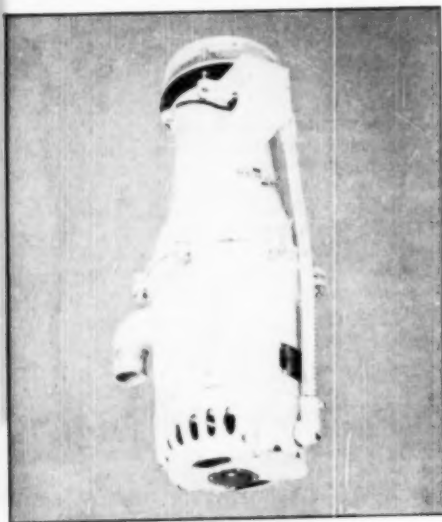
leather, soft and pliable with a good feel. Outseams. Bursting strength of outside leather, good; of fur lining, poor. Colorfastness to cold water, poor. Workmanship and appearance, judged good. 1

Daniel Hays (Daniel Hays Co., Gloversville, N.Y.) \$10. Grain-finished leather, soft and fairly pliable with a slight "papery" feel. Outseams. Bursting strength of outside leather, fairly good; of lining, fair. Colorfastness to cold water, fair. Workmanship and appearance, judged fair. 3

C. Not Recommended

Meyers Make (Louis Meyers & Son, Inc., 1 Park Ave., New York 16) \$7.95. Grain-finished leather, soft and pliable with a good feel. Overseams. Bursting strength of outside leather, poor; of lining, poor. Workmanship and appearance, judged poor. 2

Garbage Disposal Unit



Homart Electric Garbage Disposer



Shredding ring and grinding rotor of Homart.

SINCE the report on these units appeared in the February 1949 BULLETIN, many requests have been received from subscribers for information on the *Homart*, a model distributed by Sears, Roebuck & Co. The relatively low price of this unit, \$74.50, plus freight, compared to around \$120 for the units reported in the February 1949 issue, no doubt accounts for the marked interest of subscribers in Sears' brand.

A. Recommended

Homart Electric Garbage Disposer (Sears-Roebuck's Cat. No. 42-06405) \$74.50, plus freight. Equipped with single-phase capacitor-starting type $\frac{1}{4}$ hp. motor; 5.6 amperes. Grinding rotor consisted of a ferrous casting having 2 machined "dogs." Shredding ring or stator was a heavy ferrous casting with a circumferential row of square grooves. The "dogs" rotated opposite these grooves and their combined action served to grind the waste material. Located above the upper end of the grooves were 6 hardened steel inserts resembling segments of a coarse rip saw. The unit was controlled by a manually-operated micro switch mounted in drain unit which was actuated by turning the drain strainer; this arrangement was judged to be safe and convenient. A separate rubber plug was provided to close sink outlet when grinder was not in use. "Dogs" and shredding ring were relatively soft but would probably serve satisfactorily if no hard or metallic objects were dropped into the unit. Fineness of grind, very good. Did not tend to stall under load. Completeness of grind, very good. Variety of wastes that could be handled, very good. Grinding action somewhat slower than other units previously tested. Relatively quiet in operation. Construction, considered good. 1



Osterizer Model 10



Waring Blender Cat. No. 700

"Liquefiers," "Liquidizers," or "Blenders"

A "LIQUEFIER" is by no means indispensable in the average home, but for some household chores it provides a useful appliance. The principal applications are puréeing fruits and vegetables, mixing drinks, and mixing light batters. Several of the makes were advertised as capable of grinding coffee, liquefying soaps, chopping nuts, grinding meats; one was even claimed to shave ice. None was satisfactory for whipping cream. All produced a froth (with very little increase in volume). The froth did not have the needed stiffness but was quite fluid or "runny"; moreover, some butter appeared in the cream before it thickened. The Osterizer with a special agitator (available at extra cost) could be said to whip cream but with only a small increase in volume. Too much heat was generated by all models tested; this melted shortening and thereby thinned cake batter. All the liquefiers were unduly noisy.

Cleaning a liquefier is likely to be a troublesome chore. The mix may lodge under the blades at the bottom of the container. The Osterizer was the only unit which was so designed that it could be taken apart and easily cleaned by the housewife. Liquefiers equipped with a two-piece lid were more

easy to load while in operation than those having a one-piece lid.

The liquefiers were tested under load, running intermittently for over 90 hours (four minutes on and four minutes off). They were tested for current leakage, radio interference, voltage breakdown, ease of cleaning, power consumption, and overflow or spattering of the mix at start and during operation. Ratings were based upon these tests and also upon kitchen tests of recipes and applications advised by the manufacturer. All of the liquefiers were acceptable from the standpoint of current leakage, but all produced radio interference.

A. Recommended

Osterizer (John Oster Mfg. Co., 10 Main St., Racine, Wis.) \$40. Weight, 8 lb. 9 oz. Chrome-plated base, clear glass container with rubber lid. Only model of those tested that was easy to clean. Spilled excessively when starting but held a relatively large amount of liquid during normal operation. Useful for relatively "heavy duty" work such as crushing ice cubes and for heavier mixes. Single-speed motor. 3

Waring Blender (Waring Products Corp., 545 Fifth Ave., New York 17) \$35. Weight, 9 lb. 4 oz. White enameled base, translucent glass container with plastic lid.

Difficult to clean. The *Blendor* held a large amount of liquid without spilling during operation, and the irregular shape of the glass container was apparently helpful in the mixing operation. Performed well in kitchen tests but was not effective in chopping ice cubes. Single-speed motor. Only model to withstand high-voltage test after being exposed to high humidity. 3

B. Intermediate

Universal Mixablend (Landers, Frary & Clark, 100 Center St., New Britain, Conn.) \$30. Weight, 8 lb. 11 oz. Chrome-plated base, clear glass container with plastic lid. Difficult to clean. Container held the largest amount of liquid without spilling during operation of any of the five brands tested. This unit performed poorly in kitchen tests; motor stalled under heavy loads. Two-speed motor, of insufficient power. 2

K-M Liquidizer (Knapp-Monarch Co., Bent Ave. and Potomac St., St. Louis 16) \$35. Weight, 8 lb. 1 oz. White enameled base, clear glass top with 2-piece plastic lid. Difficult to clean. Spilled liquids, even at low speed, when more than half full. A small amount of the mix seeped through the blade assembly and into the base. Performed fairly well in kitchen tests. Crushed ice very well. Three-speed motor. 3

C. Not Recommended

Kenmore Liquidizer (Sears-Roebuck's Cat. No. 34-08242) \$18.50. Weight, 7 lb. 14 oz. White enameled base, wide clear glass container with 2-piece lid. Handle on base was a good feature but handle on container difficult

to grasp. Difficult to clean. Spilled a large amount of liquid in use. Performance in kitchen test, fair. The *Kenmore* was the noisiest of the five liquefiers tested. Its two-speed motor became very hot after a short period of operation. 1



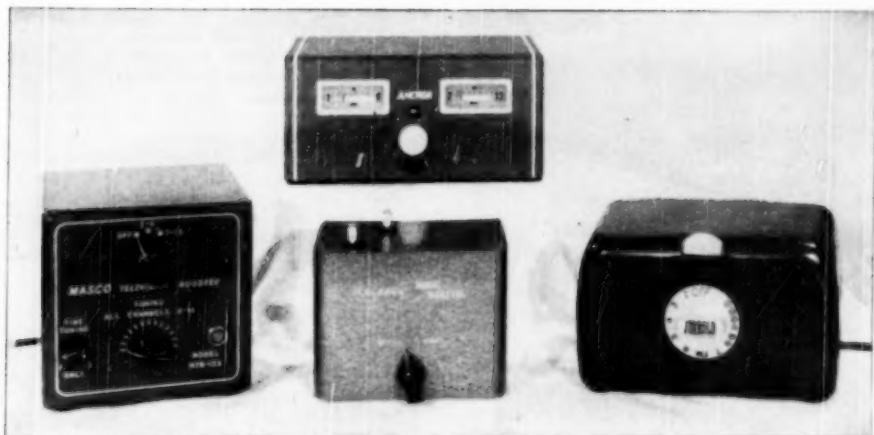
K-M Liquidizer Cat. No. 40-502



Universal Mixablend EA 6403



Kenmore Liquidizer Cat. No. 34-08242



Top: Anchor.
Bottom: Masco, Regency, Jerrold.

Signal Boosters for TV and FM

ALTHOUGH dependable television reception is to be expected normally at a maximum range of only 50 miles from a sending station, many receivers have been purchased for use in the more remote areas where signals are very weak or almost wholly inadequate for the usual TV set. A possible solution for improved reception in these more remote areas might be a receiver designed specifically for weak signal reception, but this would be an expensive and possibly commercially impractical solution, since by far the greatest number of prospective set owners live in strong-signal areas.

People who live in a "fringe area" can do two things to improve their chances of adequate television reception. One is to use a very high, elaborate antenna array with a shielded transmission line to the receiver; the other is to use a good television booster. The antenna array produces a higher signal input to the receiver (or to the booster) which in turn improves greatly the sensitivity of the receiving system. Proper installation of both the antenna and booster will lessen most "noise" effects.

The function of the television antenna is not only to pull in sufficient signal strength for proper operation of the receiver, but also to discriminate against unwanted signals. In the frequency range of television broadcasting, the signal, in addition to arriving directly from the sending station, is often

reflected from large buildings, hillsides, or other obstacles, and the two signals do not arrive at the receiving antenna at the same time. The result is the presentation of both the usual and a weaker off-set image on the screen (called a "ghost"), and it is possible that there may be several such "extra" images. Since the direction of arrival of the primary signal and the direction of arrival of the ghost signal generally differ, the latter signal may be partially or totally eliminated by the use of an antenna which strongly favors reception from one direction. The problem of reception of stations from several directions has arisen because of the increase in the number of stations, and there are now several excellent antenna rotators available that can be controlled at the receiver to permit giving the antenna its most favorable orientation for each station.

The limiting factor as far as concerns the weakest signal that a receiver can reproduce is the amount of visual "noise" (snow) present. Most of the good commercial receivers now available have sufficient gain to produce very heavy "noise" on the screen, with the gain controls wide open and with no signal. Man-made noise is picked up by the antenna "lead in" from sources such as automobile ignition systems. Part of this disturbance may be eliminated by shielding of the lead-in. Most noise, however, is generated in the first two



RMS

tubes of the receiver and in the terminating resistor of the transmission line (located within the receiver). Since increasing the gain after the first two tubes would amplify the noise along with the video signal, additional amplifiers must be placed ahead of these tubes, and they and the circuits associated with them must be designed with the minimum-noise consideration uppermost.

Most of the boosters now available have a somewhat reduced bandwidth as compared to the bandwidth of the receiver alone. This means that a booster should not be used with a receiver if signal strength is adequate, since its use may impair the picture quality. This reduction of bandwidth helps to reduce the noise, and the very slight impairment of picture detail is not objectionable since the picture quality with a weak signal is inherently poor.

TV boosters were reported previously in *CONSUMERS' RESEARCH BULLETIN*, February 1949. The *Anchor TV-Pre-Amplifier*, which was recommended then, was included in the present series of tests to serve as a basis for comparison between the two tests.

A. Recommended

Regency Signal Booster, Model DB-213 (Regency Div., Idea Inc., 55 N. New Jersey St., Indianapolis 4) \$18. Metal case. Separate tubes used for each band. Gain,

slightly less than that from *Anchor* or *Jerrold*, but bandwidth and noise figure somewhat better. 1

Anchor TV-Pre-Amplifier, Model 101-50 (Anchor Radio Corp., 2215 S. St. Louis Ave., Chicago) \$22. 8 $\frac{3}{4}$ x 4 x 5 in. Gain, excellent. Material and workmanship, best of those tested to date. Metal case covered with imitation leather. 2

Jerrold TV-FM Booster (Jerrold Electronics Corp., 121 N. Broad St., Philadelphia) \$22. 7 x 4 $\frac{1}{2}$ x 4 $\frac{1}{4}$ in. Plastic case. Transformer power supply, single tube r.f. power amplifier. Selector switch well marked to cover 12 TV channels and the FM band. Fine-tuning control provided. Gain, excellent. Minimum shock hazard. 2

B. Intermediate

Masco Television Booster, Model MTB — 13X (Mark Simpson Mfg. Co., Inc., 32-28 49 St., Long Island City 3, N. Y.) \$18. 5 $\frac{1}{2}$ x 5 $\frac{1}{4}$ x 5 $\frac{1}{4}$ in. Wooden cabinet. Construction, fair. Switch for low and high bands, variable control for station selection. Transformer power supply. Two tubes, one used for each band. Fine-tuning control provided. Gain was high but somewhat unstable. This rating applies only to those models which have an insulating strip covering 2 screws on rear panel. On models not thus equipped, rating is C. *Not Recommended* because of shock hazard. 1

RMS, Model SP-4 (Radio Merchandise Sales Inc., 550 Westchester Ave., New York 55) \$22. Wood cabinet. 6 x 7 $\frac{3}{4}$ x 4 in. Low-high band switch and tuning controls. Single tube and selenium rectifier used. Gain was excellent on low band; only medium on high band because of an approximate 6 db. insertion loss on this band. Minimum shock hazard. 2

FM Booster

A. Recommended

Regency Signal Booster, Model SB-98 (Regency Div., Idea Inc., 55 N. New Jersey St., Indianapolis 4) \$12. Cabinet size, 5 $\frac{1}{4}$ x 4 x 3 $\frac{1}{4}$ in. For FM band only. Metal case. Transformer power supply, single tube r.f. power amplifier. Fine-tuning controls provided. Gain, excellent. Minimum shock hazard. 1

Trade Literature Useful to CR

CR receives a great deal of trade literature and catalog material. Much of this is valuable for our work, but we should especially like to receive items which manufacturers send out primarily for the use and information of dealers and professional men. Such literature often includes a good deal more detailed and practically important information than the rather general and loosely descriptive matter which goes to the ultimate consumer.

If, therefore, readers who regularly receive trade literature on matters of interest to ultimate consum-

ers (household appliances, radio receivers, cameras, for example) will send items of this sort to *Consumers' Research* from time to time, we shall be glad to file it and make good use of it for consumers generally. One medical man has very kindly sent for a period of several months all of the wide range of advertising material which he receives from drug and supply houses. We should be glad if people in trades and professions having relation to ultimate consumers, including druggists, oculists, opticians, watchmakers, and others, would do this from time to time, when convenient.

Glass Ovenware

OVENWARE dishes made of glass may be used for serving and storing food as well as for cooking it. They thus help to eliminate some extra dishes and save the housewife some dishwashing.

Glass ovenware has another practical advantage in that foods cooked in it can and should be baked in a cooler oven or for a shorter period of time than foods cooked in other ovenware. Glass is particularly efficient in using radiant heat, which is the form in which heat is principally supplied in oven cooking. In practical terms, this means that baking temperatures for cakes or muffins baked in glass ovenware should be lowered 25°F or more below that recommended in the recipe, and the baking time should be increased five minutes. (Baking times in most recipes are based on results in aluminum utensils, for those are the ones most used in test kitchens where recipes are developed.)

Because a glass vessel retains heat well, foods cooked in it tend to cook even after it has been removed from the heat. This difference will need to be allowed for in some cases. Foods brown well in glass, which also has a number of other qualities that make it a desirable material for ovenware. It is nonporous and smooth-surfaced and hence easy to clean, and it does not absorb odors from food. It is far more resistant than metals and alloys to acid and alkaline food substances and does not, practically speaking, contribute metallic or other contamination to the foods cooked in it as enamel and metal wares often do.



A casserole in position for chipping test.

The chief disadvantage of glassware is its fragility. It must be handled carefully and not bumped or dropped. Sudden changes in temperature will

Brand	Manufacturer	Price per Custard Cup	Colored	Decorated	Resistance to Chipping	Resistance to Impact	Resistance to Sudden Temperature Changes	Color of Baked Cake Mix	Price Rating
A. Recommended									
<i>Pyrex</i>	Corning Glass Works, Corning, N.Y.	7-1/2c	No	Slightly	Good	Good	Good	Uniform dark brown	3
B. Intermediate									
<i>Fire-King</i>	Anchor Hocking Glass Corp.	5c	Clear light blue	Yes	Fair	Poor	Fair	Uniform light brown	1
<i>Glasbake</i>	McKee Glass Co., Jeanette, Pa.	5c	No	No	Fair	Good	Poor	Uniform, fairly dark brown	1
<i>Maid of Honor</i> <i>Flamex Glass</i>	Sold in Sears-Roebuck's retail stores	4-1/3c, plus postage	No	Yes	Poor	Good to fair	Fair	Uniform medium brown	2
<i>Ivory Fire-King</i>	Anchor Hocking Glass Corp., Lancaster, Ohio	7-1/2c	Grayish white translucent	No	Fair	Fair to poor	Fair	Uniform medium brown	3

cause it to crack or break. A hot glass dish will crack if splattered with cold water, and will often crack if it is placed on a wet or cold table or sink surface. There is, of course, an element of danger in glassware, as its breakage may cause a burn or scald, or even a severe cut in some circumstances.

In CR's tests, the glass ovenware samples were subjected to tests to determine their resistance to impact, chipping, and sudden temperature change.

In the practical baking tests, a simple one-egg cake batter was baked in custard cups for 25 minutes at 350°F using a thermostatically controlled gas oven. The custard cups were placed on the top rack of the oven in such a manner that one cup of each brand was in the rear, the center, and the front of the oven, respectively. Prices may be higher, now, in some cases; prices given are those paid when the samples were purchased for test.

Parking Cars in Low or Reverse Gear a Bad Practice

A BROKEN rear axle ring gear or pinion will often be the result of parking a car in low gear or in reverse. A slight endwise bump from another car, trying to squeeze into or out of a limited parking space, for instance, is all that is necessary to cause the damage. The trouble may also occur in cases where the clutch is let in too rapidly, with the car in low gear.

When a transmission is in low gear, the effect of the engine's resistance to being started up suddenly by a push from ahead or behind and therefore the stresses on the rear axle gears are *increased some 15 or 20 times* compared with the conditions that would occur if the car were in high. The gear is, therefore, overloaded severely on one or two teeth. The jolt of a sudden bump received by the car parked in low gear is, of course, much more serious than a steady push or pressure would be. Sometimes the overstrain will produce an incipient or partial fracture which thereafter develops gradually as the car is used, and then at some later time, there will be a complete failure of one, sometimes two, teeth of the ring gear or pinion.

For the reasons indicated, the common practice of parking a car in low or reverse gear is an unwise one, particularly where there is danger of the car being started up suddenly by a parking lot attendant who does not mind letting the clutch in suddenly with the engine racing, or where the car may be bumped into by someone trying to park ahead of or behind it.

When necessary to park on a downgrade, the safest plan is to set the hand brake as tightly as possible, and turn the wheels sharply toward the sidewalk. (Many car owners tolerate poorly adjusted or worn parking brakes. This is a dangerous practice; it is essential from the standpoint of safety that parking brakes should be maintained in good

condition so that they will hold a car under all reasonable conditions, and that there is no danger of the latch slipping out of position and allowing the brakes to be released.) Turning the front wheels toward the curb when the car is pointed downhill — away from the curb when pointed uphill — will effectively block car movement against gravity and against any but a vigorous push by another car. Even if the car (in downhill parking) does receive such a bump as to force its wheels over the curb, or if there is no curb to block the wheels, the motion of the car will be in a circular direction, so that it will not tend to pick up momentum and offer a great hazard to those in other cars. It may be pushed onto the sidewalk, but it is not likely to run away down hill. If, because of poor parking brakes, you must park your car in gear, then use high gear (or under conditions of exceptional need, second gear). This method will tend to subject the gear teeth to much less stress than when the car is parked in low or reverse gear.

There are a number of reasons for locking the doors of a car when it is standing. The problem discussed in this article, of possible damage to gears, gives another instance of the importance of this, for if the doors are not all locked securely, someone may tamper with the brake or turn the steering wheel, or engage the car into reverse or low gear, and then the care taken to protect against danger of accident or damage is lost.

When it is necessary to push a car to start the engine, it should always be in high gear, as this reduces the stresses on the gear and rear axle to moderate values. When it is necessary for a car to be towed in order to get an engine started, the wise procedure is first to disengage the clutch, then engage the high gear; then let the clutch back into engagement when the car has gotten under way and has reached a speed of say 15 or 20 miles per hour.

Audio Amplifiers

RECENT trends in audio amplifier design indicate a very decided change in the attitudes of several manufacturers with regard to the manufacture and supplying of units which are really capable of high-fidelity performance. There has been a definite trend in recent months toward supplying amplifiers which, when tested, actually conform in most respects to the advertised specifications. In the case of one in this test (the Masco), the maker's advertising actually understated the performance as to percentage of distortion at 10-watts output.

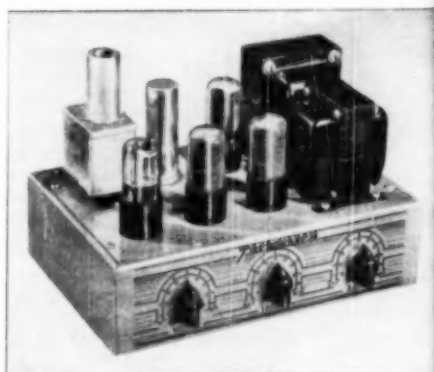
Before choosing an amplifier for use with high-fidelity equipment, the prospective purchaser should decide where he wants the controls. If the system is to be used principally for AM or FM reception, and the playing of records is a minor consideration, it is usually best to have the tone controls on the tuner or tuners that are used. With this arrangement, what is known as a *basic power amplifier* can be used (i.e., one without tone and volume controls). A preamplifier stage can be added ahead of the basic amplifier if a magnetic pickup is used. This system has the advantage that the amplifier and preamplifier can be mounted in an out-of-the-way place, as they need not be touched after the installation is completed.

Unfortunately, few tuners incorporate tone control circuits which are as well designed and flexible in use as those present in several of the amplifiers listed. For this reason, the great majority of listeners, especially anyone who does not care to pay a high price for a top-grade tuner, or one who is interested mainly in the reproduction of recorded music, will be better advised to purchase an amplifier which includes a preamplifier stage, and separate bass and treble tone controls, a volume control, and provision for switching to radio or phonograph on the amplifier control panel without the need for making changes in the input connections (by taking out and inserting contact pins or plugs, for example). Another possibility is the use of a remote control amplifier such as the *Brook 12A3* or *10C3*. With this arrangement, it is necessary to have the controls on both the tuner and the remote control unit within convenient reach.

The following listings of audio amplifiers are based upon full and complete reports of tests, but for the reasons set forth in the January 1950 BULLETIN, at page 8, the information has been very greatly condensed in order to make room in this BULLETIN and those coming in the near future for a large number of accumulated findings of CR's



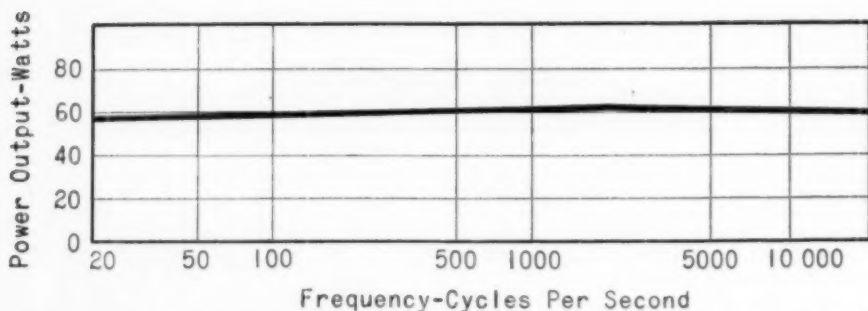
Bogen Model PX-10 Audio Amplifier



Thordarson T-32W10 Audio Amplifier



Masco Model MA-10-11F Audio Amplifier



Curve showing the power output in relation to frequency of the McIntosh Model P50B audio amplifier measured at 2% total harmonic distortion.

tests. All of the amplifiers listed made use of "beam-power" tubes (tetrodes) in the final output stage (6V6's or 6L6's). CR prefers the use of triodes throughout in audio amplifiers. Ratings are cr50. (See also older listings brought forward on page 18.)

A. Recommended

Audio Pacific, Models 2 and 3 (Audio Pacific Co., 30 W. Colorado St., Pasadena 1, Calif.) \$60. Rated output, 20 watts (actual, 22 watts with 2% distortion at 1000 cycles if loaded by 10 ohms). While the output does drop off with speaker impedances above or below this value, it is likely this amplifier will have no difficulty in driving any of the medium- to high-quality speakers now available, either to distortion or to volume levels much above that needed in the home. Tone control action (Model 3), adequate; controls of a type now almost universally used in low-cost equipment; they offer no position for really flat response and lack the flexibility found in the most costly amplifiers, but they do have the advantage of introducing little or no distortion. Frequency response, remarkably good, indeed (within $\frac{1}{4}$ db. from 20 to 20,000 cycles at 15-watt output level). Hum level, 72 db. below 15 watts (very good — just audible at 3 ft. from a highly efficient speaker). The *Brook 12A3* amplifier (priced much higher) would be justified for some users in consideration of the multiple inputs afforded, greater refinement of the tone control circuits, and the more complete freedom from noise; the *Brook*, however, does not afford a lower percentage of main amplifier distortion or quite as great power-handling capacity. **Model 3 Audio Pacific** (\$75) differs from *Model 2* in that an additional tube and bass and treble controls are included. **2**

Knight 20-watt High-Fidelity Amplifier, Model 93-320 (Allied Radio Corp., 833 W. Jackson Blvd., Chicago 7) \$60. Power rating, 20 watts (actual, 24 watts at 2% distortion). Frequency response, very good indeed (± 1 db. from 20 to 20,000 cycles at 10-watt output level). Tone control action, adequate. This is a good and relatively inexpensive amplifier. **2**

Goodell, Model AB-3, Power Amplifier (Minnesota Electronics Corp., St. Paul 1) \$112. Power rating, 16 watts (actual, 16 watts with 2.2 volts input). Frequency response, ± 1 db. from 20 to 20,000 cycles at 16-watt out-

put level. Hum level, 88 db. below maximum undistorted output (exceptionally good). This is a flat studio-standard basic amplifier (see text) without tone controls, designed for use with tone controls of associated pre-amplifier and with provision for several different inputs. **3**

McIntosh, Model 15W-1 (McIntosh Laboratory, 910 King St., Silver Spring, Md.) \$200. A basic amplifier of radically new and different design, without tone controls. Rated at 15 watts output and easily delivered this power at negligible distortion. Frequency response, flat (almost perfectly) from 20 to 20,000 cycles at 15-watt output level. Hum level, extremely low; no audible sound noticed 3 ft. from a highly efficient speaker system. So far as laboratory tests can indicate, this was the most nearly perfect basic amplifier yet tested; its performance in every respect was superior to that of even the most expensive amplifiers previously studied. Unfortunately, this amplifier was available only in a form which requires use of other components to provide phonograph preamplification and tone control action. In an A-B (instantaneous switching) listening test in which 8 persons, all well qualified, tried to distinguish the *McIntosh* from the *Brook 12A3*, the two were rated substantially equal in summarizing a total of 162 separate judgments under varied conditions. This amplifier, if equipped with proper preamplifier and tone control equipment now understood to be in development, would warrant an *AA* rating. **3**

McIntosh, Model P50B (McIntosh Laboratory) \$300. Consisted of two separate chassis. Tone controls and phonograph preamplifier were not provided. Frequency response curve, flat at 50 watts output from 30 to 20,000 cycles. The power output curve at constant 2% distortion is flat within 0.3 db. over the entire audio spectrum, so unusual, even in laboratory amplifiers, as to be startling. A jury of 8 engineers and 2 professional musicians was unable to distinguish or establish a preference between the *P50B* and the *Brook 10C3* in listening tests, with instantaneous switching between the two. The more than 50 watts available from this amplifier would be required only in very exceptional applications in very large multiple speaker installations which are capable of dissipating this very large amount of power. **3**

Universal UB-201 Audio Amplifier (Universal Broadcast Equipment Corp., 6035 Northwest Highway, Chicago 31) \$105. Rated output, 20 watts at 400 cycles. Actual power output, 22½ watts at 2% distortion at 400 cycles. Frequency response, flat within 2 db. from 30 to 20,000 cycles at 10-watt output level. Tone control action adequate. Hum level, 70 db. below nominal 20-watt output; mixed hum and tube noise barely audible 2 ft. from an efficient speaker. 3

B. Intermediate

Bell, Model 2122 (Bell Sound Systems, Inc., 555 Marion Rd., Columbus 7) \$41. Listed *B. Intermediate* in CR's Bulletin for April 1949. Rated power output, 10 watts at 3% distortion (actual, as measured, 7 watts). Frequency response, essentially flat from 50 to 20,000 cycles at "milliwatt" output level. The oscillating condition present in the previous samples reported on (in the April 1949 Bulletin) has been corrected. Although well constructed and well designed, this amplifier cannot be expected to fill all the needs of high-quality listening in large rooms or where high volume levels are used; for ordinary listening, its use with a well baffled and efficient speaker of good quality should give full satisfaction. Tone-control action is effective, but some may desire more bass boost, as is afforded in the *Thordarson T32W10*. High-frequency response especially satisfactory in 4 to 10 kc. range. 1

Bogen, Model PX-10 (David Bogen Co., Inc., 663 Broadway, New York 12) \$50. Rated power output, 10 watts at 5% distortion (actual, 8.3 watts at 2.5% distortion). Frequency response is limited. Uses single-knob variable-position tone control of limited value. Hum level, 60 db. below 10-watt output, good. The *Thordarson T32W10* and *Masco MA-10-11F* amplifiers are considered preferable to the *Bogen PX-10*, as they offer better reproduction at lower cost. 1

Masco, Model MA-10-HF (Mark Simpson Mfg. Co., Inc., 32-28 49 St., Long Island City 3, N. Y.) \$41. Power output, rated 10 watts with less than 5% distortion (actual output, very nearly 10 watts at 2% distortion at 400 cycles). Frequency response, essentially flat at "milliwatt" output level. Action of tone controls adequate, although some may consider the bass limitation serious and desire more bass boost. Hum level, 62 db. below rated output and quite even when compared to am-

plifiers costing considerably more. This is a capably and conscientiously-designed amplifier giving about as good performance as can be provided at the price. The unskilled user should have no difficulty in installing it. It has the disadvantage of not providing volume control on the radio input, hence must be used with a tuner that has a volume control (most makes do). 1

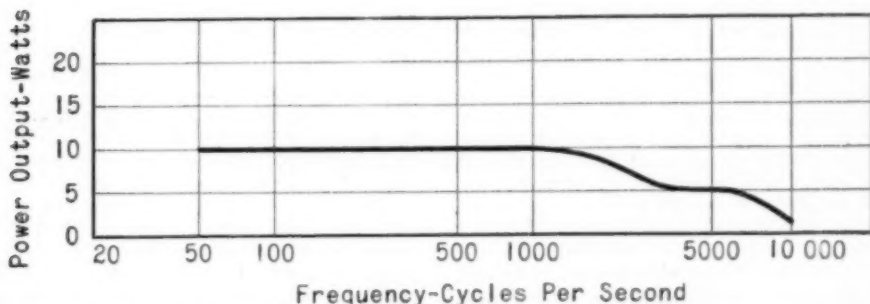
Thordarson T32W10 (Thordarson Electric Mfg. Div., Maguire Industries, Inc., 500 W. Huron St., Chicago 10) \$38. Rated 10 watts (measured 10 watts). Frequency response, within 1 db. from 20 to 20,000 cycles per second at "milliwatt" output level. Tone control action adequate. Hum level, 70 db. below 10 watts output, very good (but not comparable to the *Brook 10C* in this respect). Design judged not to be as conservative as would be desirable. The tone controls are unusual among low-cost amplifiers in affording one really flat position. Bass performance considered preferable to that of the *Bell, Model 2122*, or the *Masco* equipment, but performance in range of 7000 to 10,000 cycles was not considered as good; this, however, is a matter of relative unimportance where speaker equipment is not of a quite exceptional grade. 1

Sargent-Raymont, Model SR 16A (The Sargent-Raymont Co., 212 Ninth St., Oakland 7, Calif.) \$72. Delivered approximately 12 watts output at 400 cycles with 2½% distortion, and power was well maintained down to 40 cycles. As all 4 inputs are fed through the preamplifier stage, considerable readjustment of controls was necessary when changing from radio to phonograph. Adequate gain is provided for low-level pickups (crystals) and the "Acoustic Balance" control will properly compensate pickups down to about 100 cycles. The basic amplifier is quiet, amply powerful, and well made. Frequency response, excellent from 20 to 20,000 cycles. 2

C. Not Recommended

Newcomb, Model P-10 (Newcomb Audio Products Co., 6824 Lexington Ave., Hollywood 38) \$40. Rated at 10 watts, but overloading occurred at just above 5 watts. Tone control action, considered mediocre. Frequency response, ±4 db. from 20 to 20,000 cycles; no flat position of tone controls (a disadvantage). Output transformer was of a grade not suitable for high-fidelity use. 1

Rauland 1825 Phono Amplifier (Rauland-Borg Corp.,



Curve showing the power output in relation to frequency of the Thordarson Model T32W10 audio amplifier measured at 2% total harmonic distortion. Note especially the high output level maintained down to 50 cycles, most exceptional for an inexpensive amplifier.

4245 N. Knox Ave., Chicago 41) Approximately \$76. Unfortunately, although this amplifier had certain ingenious convenience features, electrical measurements indicated that it would be unsatisfactory for use with extended range speaker systems in the home; a power curve taken at constant 3% distortion indicated that the output of the amplifier dropped to 2½ watts at 55 and 6000 cycles. 2

For the convenience of readers, listings without comment are included of amplifiers reported on previously. For detailed findings, see BULLETINS whose dates are given at end of each listing; BULLETINS, 30 cents each; *Annual Cumulative Bulletin*, \$1.75 to subscribers.

A. Recommended

Brook High Quality Audio Amplifier. Remote Control Model 12A3 (Brook Electronics, Inc., 34 DeHart Place, Elizabeth 2, N.J.) \$169.50 net. (April 1949) AA

Brook High Quality Amplifier. Model 10C3 (Brook Electronics, Inc.) \$237. (1949-1950 *Annual Cumulative Bulletin*) AA

Ten-Watt High-Fidelity All-Triode Amplifier, as designed by Consumers' Research. (*Special Bulletin 31* available from CR at \$1) Parts may be bought from any large radio supply dealer, or may be had from Sun Radio & Electronics Co., Inc., 122-24 Duane St., New York 7; their price for the kit, \$42.50; for amplifier ready assembled, \$69.50.

Altec Lansing A-323B Audio Amplifier (Altec Lansing Corp., Hollywood) \$133. (October 1948)

Direct-Coupled Amplifier ACA-100DC (Amplifier Corp. of America, 396 Broadway, New York 13) \$187.20, tubes \$12.07 extra. (March 1948)

B. Intermediate

Thordarson Tra-Fidelity T-31W10AX (Thordarson Electric Mfg. Div., Maguire Industries, Inc., Chicago) \$74.97. (1949-50 *Annual Cumulative Bulletin*)

Goodell NSA-1 Dynamic Noise Suppressor Amplifier (Minnesota Electronics Corp., 97 E. Fifth St., St. Paul 1) Approximately \$130. (April 1949)

Universal UB-15 (Universal Broadcast Equipment Corp., 6035 Northwest Highway, Chicago 31) \$90. (April 1949)

Off the Editor's Chest

(Continued from page 2)

decay, whether their use may involve some health hazard, or whether they are just one of those things that appears on the advertising scene from time to time and gives the ad-writers a new approach to heralding the appearance of a very profitable MIRACLE OF SCIENCE.

Another "scientific" discovery that is being touted in full-page advertisements is the antihistamine tablet, available under many brand names. Physicians and medical researchers have reported excellent results in using the antihistamines with certain types of allergic rhinitis, but they warn that the various related drugs are by no means a "cure-all" for the common cold. Some unpleasant aftereffects and some dangers in use of the new drugs have already been noted, and others will doubtless be reported as observations and experiments with them in use continue.

The point is that scientific research is a long and slow process. It is impossible to predict the course of a particular drug and its effect on a human being until *thousands of cases of its use* have been studied in carefully controlled experiments and criticized, discussed, and interpreted over a considerable period of time. The person who wishes to take no chances with his health and pocketbook will take a conservative, show-me attitude toward these advertised marvels, however persuasive the advertising may be. It is well to remember, too, that the true scientist is a modest and careful fellow who is not given to boasting about the results of his

researches. Any claims that he sanctions will be restrained and conservative because his work has taught him that surface appearances are deceiving and that the long-time effects of a treatment or drug may be immeasurably more important than the result that follows immediately.

The belief that the scientist and engineer can always be relied upon to provide a ready answer to any problem that may appear to be in his field is one that Consumers' Research frequently encounters. As we have often pointed out, conducting a comprehensive test of an appliance or device is a time-consuming job that will often involve the recording, checking, and evaluating of literally thousands of measurements capable of being made correctly only by specially qualified engineers and scientists experienced in the use of certain specialized tools and instruments. In the test of washing machines alone, for example, a test run to determine effectiveness of the machine in removing artificial dirt from fabric test samples on five machines required 30 days, and that aspect constituted only a part of the complete study of the five washers. It takes about six months to complete laboratory tests and prepare a highly condensed report of the work done in testing mechanical refrigerators, vacuum cleaners, and electric and gas stoves. Furthermore, since we have a well-justified preference for purchasing appliances for test from regular dealers and shops just as any consumer would buy them, it may be some time after a new model is

announced before we can locate one available for purchase and immediate delivery. Advertising and publicity departments have a way of breaking the news about the launching of a new model before the first small production lot is even ready to be shipped from the factory. In the latter part of November 1949, for example, a CR subscriber telephoned CR's office in a great hurry to obtain information on a new 1950 *Ford* which she was contemplating purchasing, although the actual car was not scheduled to be in dealers' hands for several days. At about the same time another subscriber wrote that he was about to purchase a 1950 *Studebaker Champion* and wanted to know as soon as possible what oil to use in the car.

CR has purchased a number of the 1950 automobiles for test and will buy others as they become available. The actual task of studying their advantages and weaknesses and comparing their several performances is under way, but to provide CR subscribers with a careful appraisal will require several months of hard, detailed, painstaking observations and tests, followed by careful checking by several other qualified consulting experts before the reports can be prepared for presentation in CR's BULLETIN. (The printing and production schedule requires about six weeks from the time a manuscript report is written up before it is in subscribers' hands in printed form.) There is no one in this country or the world, for that matter, who can walk into a dealer's showroom, look over a car for a few minutes, and then give a worth-while appraisal of the car's performance, an appraisal good enough for one to use as the basis for a \$2000 or \$3000 expenditure by consumers.

People who want or expect that type of service will get along just as well by considering and weighing the salesman's claims and representations as best they can, without benefit of professional advice. There is no competent technical advice that can be provided speedily and at small or negligible cost, as some suppose. In reporting on automobiles, it is important, for example, to check with servicemen on the type of repairs or adjustments that are most frequently needed on the various new models. In a recent year the roof supports (door posts) of a well-known make of car had to be reinforced by welding on a considerable number of new cars within a month or two of their manufacture. No one could have predicted or foreseen that unusual type of weakness or failure on the basis of preliminary test runs and only the test of time and a period of hard use on the road brought to light the structural weakness of the body design. The manufacturer's engineers with their superior facilities for study of their product did not, of course, know about the defect; neither did their test runs and road-abuse program reveal the fault soon enough to prevent a serious loss to the manufacturer and many of his customers.

Each time some new product is announced with a fanfare of advertising, we are flooded with inquiries about its performance and the validity of its advertising claims. It is pleasant to be credited with omniscience, but it will save our readers considerable effort if they will remember that even with an income of many millions of dollars a year, we should not be able to include in our test program all, or the greater part of the abundant variety of products that are available to the American consumer, as fast as the consumers would like to know about them. We do endeavor to test the brands and models that are in national distribution and that are most sought after by prospective purchasers of items, such as washers, refrigerators, and vacuum cleaners, that require a large initial outlay where performance, safety, and economy in use are especially important factors that can be measured by instrumental equipment.

In the case of a new invention such as television, it requires time to set up criteria for evaluating performance and to work out the testing procedure and select and procure the costly instrumentation needed.

It may be news to the non-technically trained consumer, but it is not easy to arrive at a sure, dependable decision on just what constitutes a good product and what a poor product in an entirely new field. And the consumer who thinks about the problem will realize that opinions and judgments which are not reasonably trustworthy will not be of service to him, but may do more harm than good, besides doing an injustice to honest and competent manufacturers, in many instances.

Science has been defined as knowledge obtained by controlled quantitative investigation. In applying the method of scientific investigation to evaluation of products for consumers, we must proceed carefully, to make certain that all the factors most important to consumers (including convenience, adaptability, economy in use) have been taken into consideration, and second that the products have been subjected to testing procedures that are contrived properly to bring out important differences between the various makes or brands. It would be fine if it were possible to subject every article to a life test of sufficient duration to bring out good features or weaknesses such as would come to light in a long period of use in the home. Practically speaking, life tests cannot be made on most items since if they are carried on for a sufficiently long period, the findings will become available so late that the model is no longer current and the results would thus have only what is known as "academic" interest. On many items there is no possible way accelerated tests can be performed so that results of, let us say, five years' use of a toaster or electric range and its heating elements, switches, and thermostats can be telescoped into a month or two of operation in the laboratory.

It is important to remember that the fact of an advertiser's being able to prepare appealing copy or convincing demonstrations quickly does not mean that the reverse process of taking the claims apart and testing their truth can be carried out with equal speed or facility. The laboratory does not work with words but with expensive and exacting tools and instruments; its findings aim to secure dependable facts, where the advertiser's claims are designed to be persuasive and to "sell the goods."

If we are unable to provide you with an immediate answer to your problem on a postcard, please remember that our trade is not the verbal magic of the advertiser and salesman but the difficult and time-consuming discipline of the professional expert and engineer. The end-result may seem simple and clear, but the process by which it is arrived at calls for time-consuming observations and measurements, exacting and often intricate correlations, and careful, responsible interpretation.

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Corrections and Emendations to Consumers' Research Annual Cumulative Bulletin (ACB) and Monthly Bulletins

Post-War Housing In the last paragraph, line 7, delete "Federal Home Loan Bank Admin., Federal Home Bldg. Service Plan, 101 Indiana Ave., N. W., Washington 25, D. C." CR has been advised by the Home Loan Bank Board that the Federal Home Bldg. Service Plan is no longer in existence, and their organization can now render no constructive service beyond referring inquirers to local members of the Federal Home Loan Bank System in their own communities. It is understood that in most instances the local members have on hand sets of plans for the construction of various types of homes, or are in a position to refer interested persons to architects or builders who have such plans. Once the type and cost of the home are determined, detailed information concerning financing can be furnished by the local members of the Federal Home Loan Bank System.

War Surplus Motion Picture Camera
Page 20
Jan. '49 Bulletin

Delete last paragraph and substitute the following: "In CR's opinion anyone requiring a low-priced 16 mm. camera would be wise to purchase a good used camera rather than to buy the GSAP at \$25 and extras (\$17) plus his time for conversion." (Used Model K Kodak motion picture cameras mentioned in the article are at the present time very scarce; since on this account their price has greatly increased, they are not considered a good buy in today's market.)

Thread-a-Matic, for Threading Needles
Page 14
April '49 Bulletin

The main office of The W. C. Burroughs Co., Inc., distributor of the Thread-a-Matic, is in Wilton, Conn., and the sales office is located at 225 Fifth Ave., New York 10.

Rotary Planer

THE so-called rotary planer is designed to be used in the chuck of a vertical drill press, as shown in the photograph (Figure 1). It has been widely advertised in the popular magazines for use of the experimenter and hobbyist.

Planers operating on this principle are not considered to be unduly hazardous; they are certainly less so than the ordinary wood shaper, and likely to be less so than a bandsaw or jointer. Probably the worst risk might arise from running into a hard knot at a time when the board being planed is not held firmly against the bed of the drill press; the board might chance to be thrown out forcibly against the operator, or a finger might be pinched between the board and the bed or the guiding "fence."

Boards of ponderosa pine were planed in tests made by a skilled hobbyist accustomed to the use of power woodworking machinery, and by another amateur of somewhat less experience. The drill press in both cases was operated at the speed recommended by the manufacturer of the planer. Both operators found four serious defects in the work turned out.

1. Many wood fibers were chipped out, leaving a rough surface like that often obtained when a hand plane is used "against the grain" of a board with cross grain.
2. Circular scratches tracing the paths of the rotating knives were abundant.
3. Ridges were left at the junction of consecutive passes of the board under the knives.
4. Each operator made at least one serious gouge in the work (as shown in Figure 2) because he failed to hold the board sufficiently firm against the table of the drill press.

The operators believe that better work in some respects could be done with the device if the table of the drill press were larger. With more experience and use of great care, it probably would be possible to avoid gouging and to minimize the ridges between successive passes. A harder wood might show fewer such defects. It is unlikely, however, that either the chipping or the circular scratches could be avoided.

Moving and clamping the fence between successive passes consumes much time, and it is believed that if only three or four pieces are to be planed, the work could be done as quickly, and a good deal more satisfactorily, with a hand plane. If many pieces are to be planed, it might be possible to organize the work in such a way that the appliance would save some time. For reasonably efficient operation, it would be necessary to equip

the drill press with a quickly adjustable "fence."

A hobbyist with high standards of workmanship would demand a much higher degree of quality in his work than is obtainable from this planer. On the whole, it may be considered an interesting gadget for those who like to play with power tools, and for those whose inclinations lead them to prefer to use a machine even when a hand tool would do the work better and more quickly.

C. Not Recommended

Barron Rotary Wood Planer (Barron Tool Co., Inc., Detroit; at hardware and hobby stores and in Sears-Roebuck's Cat. as No. 9—2289) With accessories, \$7.50, plus postage.

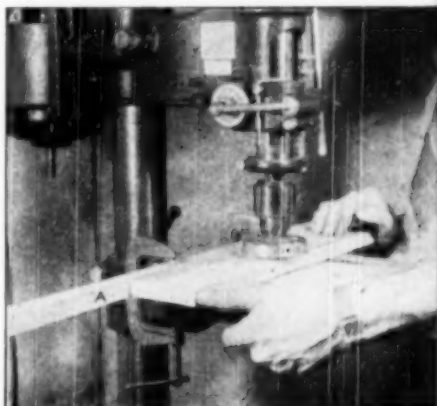


Figure 1 — Rotary planer in use on a drill press. The strip shown at A is the "fence" or guide.

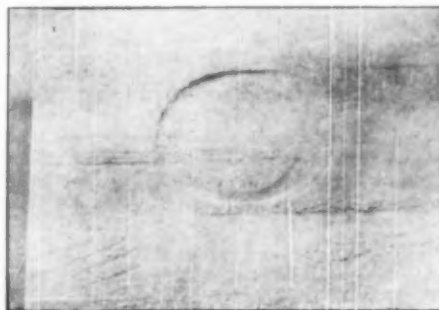


Figure 2 — Illustration of gouging which occurs when wood being planed is not firmly held against table of drill press.

Gravity and Forced-Circulation Warm-Air Heating

Gravity vs. Forced Circulation

Of several basic differences between types of warm-air heating systems, by far the most important, and one of the first which must be considered in buying, is that of *gravity* flow versus *forced or fan circulation* of the air for heating the house.

In the *gravity* type, since there is no driving force except that provided by the difference in weight between heated air and the heavier colder air, it is

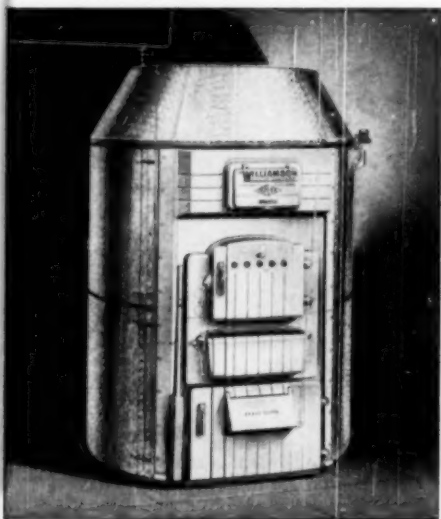


Figure 1 — Gravity-circulation type warm-air furnace.

difficult to increase sufficiently the flow of heat to individual "hard to heat" rooms. The results obtained depend on the judgment and skill of the designer of the system. If the house is one suited to a gravity-flow system, the method can, and usually does, give good results in heating. If the design of the plant is not adequate, or if the house is not well adapted, because it is of long and narrow shape or if it has relatively isolated wings, or floors on different levels, heating is likely to be variable, with one or more rooms inadequately heated. (Additional heat can sometimes be directed to such rooms by adjusting the dampers on the hot-air supply pipes.)

In the *forced-circulation* type of system, a low-rotational-speed, high-air-flow fan is placed at the air-return port of the furnace to force warm air to the rooms. The advantages are more positive circulation through smaller horizontal ducts, which may be placed flat against the ceiling to leave room for work in laundry or activities in game room or hobby shop; air can be sent to remote rooms in a house of any shape, and the forced circulation offsets such weather effects as strong cold winds. One disadvantage, of course, is the necessary use of electricity to drive the fan and thus there is an avoidable dependence upon continuity of electric current supply to assure a reliable supply of heat at all times.

Conversion of Gravity to Forced Circulation

To provide more uniform heating with gravity systems where results are at present unsatisfactory, a forced-circulation fan may be installed; in most cases such a fan should always be connected in the return duct leading from the first floor. The high velocity air in a forced-flow system will tend to pick up objectionable dust and distribute it throughout the house, when the air is taken from the cellar. (The right method is to use a return duct [or ducts].)

Cast Iron vs. Steel

In cast-iron furnaces the inner or combustion chamber is made of three or more pieces, sealed at the joints by packing or other means. This is satisfactory for hand-fired coal or coke, because the heat is relatively slowly and uniformly applied over the entire surface of the cast iron, and the furnace is under a slight vacuum so that any leakage that occurs is from the warm-air side to the fire side of the furnace and hence does no particular harm. With automatic firing (oil, gas, or stokers), there are serious objections to furnaces made of cast iron. The heat applied is sudden, and intense, and concentrated on small areas; cast iron is unsuited to such strains, hence tends to crack and break, in time, with the hazard that there is often sufficient pressure in the furnace to force the highly poisonous gases of combustion through the crack out into the air stream being circulated throughout the house.

If there could be any assurance that cast-iron furnaces would remain hand fired permanently, CR would list many of them *A. Recommended*. However, with the present trends to automatic heat,

every installation is a potential prospect for an oil burner, gas burner, or stoker. Thus all cast-iron furnaces, which can be so converted, are listed *B. Intermediate*. Cast-iron furnaces designed specifically for automatic firing, or which have been converted to automatic equipment, are *C. Not Recommended*.

In the listings which follow, the first figure refers to the manufacturer's model number, which usually also incorporates a key to the size of the furnace (body diameter in steel; grate diameter¹ in cast iron). Where the size is not indicated in the model number, it is given in parentheses. The next figure refers to the maximum heating capacity or Btu output at the registers², and is a measure of the size of the furnace as adapted to a particular house. (Btu figures are given to the nearest thousand.) The final figure shows the approximate retail price of the various models, less freight and installation costs. In many cases manufacturers declined to name suggested retail prices, in deference to plumbers in various sections who wish to be free to apply a wide variety of markups. In such cases, in order to make the prices as shown comparable, CR has added what is considered to be a normal retail markup or margin of profit to the trade prices furnished.

Round-Cased, Steel, and Cast-Iron Warm-Air Furnaces

A. Recommended

Certified, Type R-G Gravity Steel Furnaces (Certified Furnace Co., Div. Stainless & Steel Products Co., 1000 Berry Ave., St. Paul 4) Models: *RG-22"*, 76,000 Btu, \$180; *RG-24"*, 84,000 Btu, \$190; *RG-27"*, 94,000 Btu, \$215; *RG-30"*, 100,000 Btu, \$240; *RG-33"*, 137,000 Btu, \$335; *RG-36"*, 149,000 Btu, \$365.

Dowagiac, Steel Furnaces, "Original" and "Indian" Models (Dowagiac Steel Furnace Co., Dowagiac, Mich.) *Original* Series, Models: *D-22"*, 73,000 Btu, \$225; *D-25"*, 89,000 Btu, \$235; *D-27"*, 103,000 Btu, \$280; *D-29"*, 116,000 Btu, \$315. *Indian* Series, Models: *IS-22"*, 59,000 Btu, \$195; *IS-25"*, 73,000 Btu, \$205; *IS-27"*, 88,000 Btu, \$235; *IS-29"*, 103,000 Btu, \$280.

Iron Fireman, FG Series (Iron Fireman Mfg. Co., 3239 W. 106 St., Cleveland) Steel, round cased. Models: *FG-20"*, 47,000 Btu, \$155; *FG-22"*, 56,000 Btu, \$170; *FG-24"*, 66,000 Btu, \$200; *FG-26"*, 80,000 Btu, \$245; *FG-30"*, 98,000 Btu, \$325.

Kalamazoo, Supersteel Gravity Furnaces (Kalamazoo Stove & Furnace Co., Kalamazoo, Mich.) Prices shown are retail prices as suggested by the manufacturer. Models: *F-20"*, 64,000 Btu, \$185; *F-22"*, 75,000 Btu, \$195; *F-24"*, 86,000 Btu, \$220; *F-27"*, 105,000 Btu, \$270.

¹As nearly all steel furnaces are firebrick lined, grate diameters of such models are usually 3 to 4 inches less than furnace diameters.

²Heater outputs at the bonnets or tops of the furnaces are one-third greater than the register outputs shown.

Niagara, Series "D," Steel Furnaces (The Forest City Foundries Co., 2498 W. 27 St., Cleveland 13) Models: *20"-D*, 62,000 Btu, \$165; *22"-D*, 76,000 Btu, \$190; *24"-D*, 88,000 Btu, \$215; *27"-D*, 108,000 Btu, \$265. Also heavy-duty models: *30"-A*, \$330; *34"-A*, 159,000 Btu, \$465.

Oneida Royal, Steel Furnaces (Oneida Heater Co., Inc., Oneida, N. Y.) Models: *20"-C*, 66,000 Btu, \$155; *22"-C*, 74,000 Btu, \$180; *24"-C*, 95,000 Btu, \$200; *27"-C*, 108,000 Btu, \$245.

Torrid-Zone & Lennox, Steel Furnaces (Lennox Furnace Co., Inc., Marshalltown, Iowa) Riveted and caulked steel furnaces. Prices are manufacturer's retail selling prices. Models: *Q12-20"*, 66,000 Btu, \$225; *Q12-22"*, 76,000 Btu, \$275; *TZ11-22"*, 86,000 Btu, \$320; *TZ11-24"*, 89,000 Btu, \$370; *TZ11-27"*, 110,000 Btu, \$430; *TZ11-30"*, 136,000 Btu, \$545. Prices are f.o.b. nearest factory.

Williamson, Super-Steel, All-Fuel Furnaces (Williamson Heater Co., 4558 Marburg Ave., Cincinnati 9) Models: *037-20"*, 65,000 Btu, \$155; *037-22"*, 75,000 Btu, \$170; *037-24"*, 85,000 Btu, \$205; *037-27"*, 104,000 Btu, \$250; *037-30"*, 132,000 Btu, \$330; *037-34"*, 163,000 Btu, \$435.

B. Intermediate

Unless otherwise noted, the following furnaces are rated *B. Intermediate* only because of their cast-iron construction; they would be *A. Recommended* if assurance could be given that they would always be hand-fired, and not be converted to oil or gas, even by future residents of the house.

Excelsior National Furnaces, Cycloidal and Excel National Models (Excelsior Stove & Mfg. Co., 534 S. Front St., Quincy, Ill.) *B-Intermediate* ratings are given these models because they are listed by the manufacturer as having capacities some 30 to 70% higher than several other models of comparable furnace diameters (besides being made of cast iron). Heavy furnace fins increase contact surface but, in the opinion of CR engineers, would not account for so great a difference. *Cycloidal*, Models: *21"-44A*, 121,000 Btu, \$280; *24"-48A*, 158,000 Btu, \$335; *27"-51A*, 191,000 Btu, \$400; *30"-60A*, 239,000 Btu, \$490. *Excel National*, Models: *20"-40*, 101,000 Btu, \$180; *22"-44*, 119,000 Btu, \$205; *24"-48*, 140,000 Btu, \$235; *26"-52*, 163,000 Btu, \$285.

Kalamazoo Superpower (Kalamazoo Stove & Furnace Co.) Models: *F-44* (22" firepot), 58,000 Btu, \$180; *F-48* (24" firepot), 72,000 Btu, \$200. Prices are retail as furnished by the manufacturer.

Oneida, No. 971 (Oneida Heater Co.) Cast iron. Model: *971* (30" firepot), 180,000 Btu, \$395.

Williamson, Standard and Triplife (Williamson Heater Co.) Cast iron. *Standard* Series, Models: *041-18"G*, 47,000 Btu, \$145; *041-20"G*, 58,000 Btu, \$160; *041-22"G*, 70,000 Btu, \$185; *041-24"G*, 83,000 Btu, \$205; *041-26"G*, 97,000 Btu, \$250; *041-28"G*, 117,000 Btu, \$330. *Triplife* Series, Models: *043-20"D*, 65,000 Btu, \$205; *043-22"D*, 75,000 Btu, \$225; *043-24"D*, 88,000 Btu, \$250; *043-26"D*, 103,000 Btu, \$295; *043-28"D*, 120,000 Btu, \$375. Prices include automatic humidifiers and automatic furnace regulators.

* * *

Based on present information, CR does not recommend

the following brand of warm-air furnace:

Holland Furnace (Holland Furnace Co., Holland, Mich.)

Cast iron. Holland has installed through its own outlets instead of through licensed plumbing and heating contractors. The company has used aggressive high-pressure selling methods. Complaints have been reported on questionable sales tactics and on excessive repair costs and misleading or unwarranted recommendations of a new installation. (See CR's Sept. '46 Bul., p. 4. and Sept. '43 Bul., p. 8.)

Square-Cased Warm-Air Furnaces

These are essentially the same as the less expensive, less ornamental, round models previously described. Square-cased furnaces are usually furnished with grates for hand firing, but may be converted to automatic operation at any time by the addition of a conversion burner for oil, coal, or gas. If a stoker or burner is to be used from the start, the consumer should ask for a rebate to cover the cost of the grates where they have been included in the price.

Listings are the same as for corresponding round models, i.e., *A* for properly constructed, otherwise satisfactory, steel construction; *B* for cast-iron construction.

In general, casings on furnaces intended for gravity circulation have a truncated pyramid top or plenum space for the attachment of leader pipes; forced-circulation tops are flat, and over-all height is thus correspondingly lower.

A. Recommended

Certified, SCG Series (Certified Furnace Co., Div. Stainless & Steel Products Co., 1000 Berry Ave., St. Paul 4)

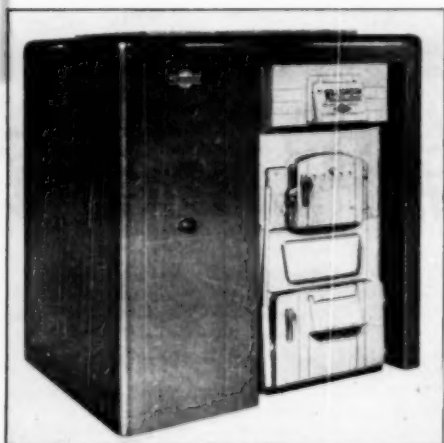


Figure 2 — Same furnace as in Figure 1 but with enclosed forced-circulation fan and square casing.

Steel models previously described in 22" and 24" sizes are also available as No. *SCG-22"* and *SCG-24"*, in square baked-enamel casings at \$35 and \$40 additional (approximate prices).

Lennox, Auto-Fyre (Lennox Furnace Co., Inc., Marshalltown, Iowa) Square-cased furnaces use one cabinet for the furnace and, if forced circulation is desired, a matching cabinet for the blower and filter. The addition of a suitably sized 700 Series blower-filter to any model will thus convert to forced circulation. Gravity models *QC12-20"* and *QC12-22"* are \$70 and \$56 more expensive than similar round models. Models available as square-cased only include: *C11-22"*, 86,000 Btu, \$380; *C11-24"*, 89,000 Btu, \$440; *C11-27"*, 110,000 Btu, \$525. All prices are retail list prices as furnished by the manufacturer.

Oneida Royal (Oneida Heater Co., Oneida, N. Y.) Steel. 20 to 27" models are also available with square enameled jackets at \$20 to \$29 additional. Matching blower-filter units are also available with approximately 25 to 38% increase in heat delivered to the registers.

Toridheat (Cleveland Steel Products Corp., 7306 Madison Ave., Cleveland 2) Square casings available for gravity models up to and including the 27" sizes at \$23 to \$30 additional.

Niagara, Series D (The Forest City Foundries Co., 2498 W. 27 St., Cleveland 13) Steel. Square casings available for 22"D and 24"D at \$23 additional.

Iron Fireman (Iron Fireman Mfg. Co., 3239 W. 106 St., Cleveland 13) Steel models previously described are also available with square casings at from \$23 to \$28 extra.

B. Intermediate

Excelsior National Furnaces, Cycloidal Models (Excelsior Stove Mfg. Co., 534 S. Front St., Quincy, Ill.) Cast iron. Available with square casings in 21", 24", and 27" sizes only for either gravity or forced circulation. Square casings approximately \$16 to \$18 additional. See also comment on high manufacturer's Btu ratings under *B-Intermediate* section of round-cased furnaces.

Pipeless Furnaces

The so-called "pipeless" or one-duct furnaces differ from the conventional gravity warm-air furnaces only in the arrangement of the ducts to the room and return to the heater. Instead of an individual register in each room, the pipeless heater is placed under one large register, located in the center of the living space or as near to it as possible. Warm air rises through a duct at the center of this register direct from the furnace underneath, and cold air returns through a casing space at the outer edges of the same register. The obvious limitations of this single source of concentrated heat restrict its use to small homes (not over four rooms), with the rooms freely interconnected (with arches, doors [of ample area] left open, or registers in the walls), and of virtually square floor plan. While attempts



Figure 3—Typical "pipeless" warm-air furnace.

are frequently made to heat second floors with such systems, as, for example, through open registers in the ceiling or open stairways, the distribution of heat by such means is unsatisfactory. Thus the *B-Intermediate* listings that follow apply *only* when such furnaces are to be used in (1) houses of four rooms or less, (2) one-story buildings with rooms opening freely in or to the center, and (3) houses having a substantially square floor plan.

B. Intermediate

Lennox Pipeless Heater (Lennox Furnace Co., Inc., Marshalltown, Iowa) Steel. Models: Q12-20", 66,000 Btu, \$320; Q12-22", 76,000 Btu, \$355. All prices are manufacturer's list prices f.o.b. factory.

C. Not Recommended

Note: The following heaters are rated *C. Not Recommended* because, with this type of heating plant, it is impractical to use the larger sizes of heaters, as the area near the one register is sure to be overheated when sufficient heat is generated to heat the outer edges of the room. CR feels that, where large amounts of heat are needed, a piped type of heating unit would be preferable.

Economy "Blue Front" (International Heater Co., Barber and Park Aves., Utica, N. Y.) Cast iron. Models: 5022, 5024, 5026; 80,000 to 103,000 Btu.

Lennox Pipeless (Lennox Furnace Co., Inc.) Steel. Models: TZ11-24, TZ11-27; 89,000 and 110,000 Btu; \$445 and \$510. Retail list prices f.o.b. factory.

Excelsior National, Excel and Solar Lines (Excelsior Stove & Mfg. Co.) Cast iron. *Excel*, Models: 20-48, 22-52, and 24-56. Register outputs, 101,000 to 140,000 Btu. Approximate retail prices, \$270 to \$355. *Solar*, Models: 20-48, 22-52, and 24-56. 101,000 to 140,000 Btu. Approximate retail prices, \$270 to \$355.

Oneida Royal (Oneida Heater Co., Oneida, N.Y.) Steel. Models: 20 CCP and 22 CCP, 90,000 and 99,000 Btu. Approximate prices, \$230 and \$250.

"Three Way" Warm-Air Furnaces

(See Figure 4, page 26)

In this type, two separate piped returns are used to bring the cooler air back to the base of the furnace, instead of the combined warm-cold air duct of the "pipeless" type. As warm air is still delivered to the entire building through the one central register, the restriction of requiring *all* rooms to be open to the center, etc., applies as with the "pipeless" type. CR does not consider that the improvement in these heaters warrants a higher rating as compared with the pipeless heaters.

The *B-Intermediate* listings are not to be taken as reflecting on individual equipment, but rather indicate CR's judgment that the three-way system itself is definitely inferior to gravity-circulation warm-air heating with the usual distributing pipes. In cases where the installation exceeds the limitations numbered 1, 2, 3 in the discussion of "*Pipeless Furnaces*," the rating is *C. Not Recommended*.

B. Intermediate

All gravity warm air furnaces listed elsewhere in this article as either *A* or *B* and having ratings of less than 80,000 Btu at the register, when installed as part of "three-way" systems.

C. Not Recommended

Gravity warm-air furnaces of 80,000 Btu or more register output, installed as part of "three-way" systems.

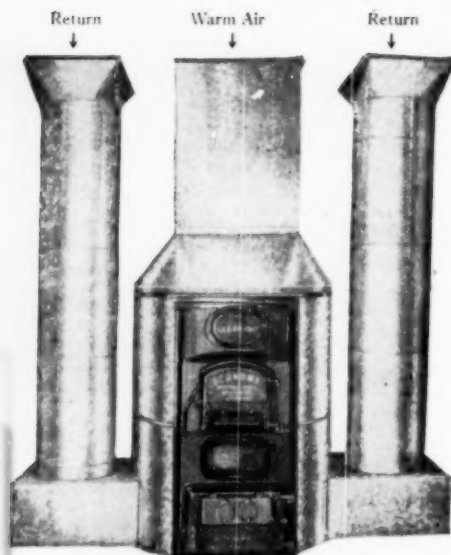


Figure 4 — Typical "three-way" heater.

Units Designed for Forced Circulation

While most of the foregoing models can be converted to forced circulation through the addition of a suitably-sized blower and motor (provided, of course, that the duct system is suitable), most of the manufacturers of warm-air equipment offer models in which the heater and blower are mounted in a single, or closely coordinated, casing and sold as single or companion items. Advantages of buying the complete unit include less chance of disproportionate blower and heater sizes, a saving of space, usually, due to ability to arrange the component parts more compactly, and frequently a saving in cost as compared with purchasing the parts separately. However, results as to effectiveness in heating should not be any different from those of properly selected individual units; the main difference is thus in appearance — a point important only where it is desired to use the cellar for other purposes.

Two types of forced-circulation units are available, those having an external firing door and intended primarily for hand firing with the option of converting to oil, gas, or stoker at any future time; and those with internal spaces or external panels for the immediate mounting of firing equipment. The latter are not usually equipped for grates. All

units listed in this article are of the former, or hand-fired, type.

A. Recommended

Certified (Certified Furnace Co., Div., Stainless & Steel Products Co., 1000 Berry Ave., St. Paul 4) Steel. Models: 222 CAC, 100,000 Btu, \$310; 243 CAC, 115,000 Btu, \$355; 273 CAC, 130,000 Btu, \$490; 275 CAC, 150,000 Btu, \$500; 305 CAC, 170,000 Btu, \$515; 339 CAC, 200,000 Btu, \$690; 369 CAC, 235,000 Btu, \$700. Price includes furnace, grates, blower, motor, filter, automatic humidifier, fan control, and draft damper.

Conco (Conco Engineering Works, Div. of H. D. Conkey & Co., 1940 Thomas St., Mendota, Ill.) Steel. Model: FA-20, 70,000 Btu, \$285. Complete motorized and controlled.

Dowagiac (Dowagiac Steel Furnace Co., Dowagiac, Mich.) Steel. *Original* and *Indian* series previously described, available with square casings for forced circulation only. Furnace, casing, and blower including automatic humidifier from \$410 for 22" D22FA to \$535 for 29" D29FA. Ratings approximately 45% higher than corresponding round, gravity models previously listed.

Iron Fireman (Iron Fireman Mfg. Co., 3239 W. 106 St., Cleveland) Include fan, motor, fan switch, automatic humidifier, and steel furnace. FF-20", 70,000 Btu, \$280; FF-22", 85,000 Btu, \$310; FF-24", 99,000 Btu, \$355; FF-27", 120,000 Btu, \$425.

Kalamazoo, Supersteel (Kalamazoo Stove & Furnace Co., Kalamazoo, Mich.) Models: F-221, 101,000 Btu, \$425; F-241, 116,000 Btu, \$460. Prices are manufacturer's list, including complete forced circulation with thermostat.

Lennox Auto-Fyre (Lennox Furnace Co., Inc., Marshalltown, Iowa) All steel. Blower cabinets are separate but exactly matching. (Similar smaller models are described under square warm-air furnace section without blowers, etc.) Prices are manufacturer's retail list for units complete with fan, motor, filter, and humidifier. Single cabinet models: QC12-2002, 84,000 Btu, \$415; QC12-2211, 96,000 Btu, \$465; QC11-2211, 109,000 Btu, \$515; C11-2421, 114,000 Btu, \$605; C11-2751, 139,000 Btu, \$755.

Toridheat (Cleveland Steel Products Co., 7306 Madison Ave., Cleveland 2) Steel. Models: CFS-20", 79,000 Btu, \$280; CFS-22", 96,000 Btu, \$310; CFS-24", 112,000 Btu, \$355; CFS-27", 136,000 Btu, \$425.

Williamson, Supersteel, Flo-Warm (Williamson Heater Co., 4558 Marburg Ave., Cincinnati 9) Models: 437-20"D, 89,000 Btu, \$265; 437-22"D, 107,000 Btu, \$295; 437-24"D, 120,000 Btu, \$340; 437-27"D, 145,000 Btu, \$395.

B. Intermediate

Williamson Triplife and Standard Series (Williamson Heater Co.) Cast iron. *Triplife*, Models: 443-20"D, 91,000 Btu, \$325; 443-22"D, 109,000 Btu, \$355; 443-24"D, 130,000 Btu, \$385; 443-26"D, 145,000 Btu, \$435. *Standard*, Models: 441-20"G, 82,000 Btu, \$285; 441-22"G, 97,000 Btu, \$315; 441-24"G, 115,000 Btu, \$345; 441-26"G, 135,000 Btu, \$395. Prices are without controls but include furnace, blower, motor, and filter.

RATINGS of MOTION PICTURES

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Charm, Chicago Daily Tribune, Gas Daily News (N.Y.), The Exhibition, Harrison's Reports, Motion Picture Herald, National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time, Variety (weekly), Weekly Guide to Selected Motion Pictures (National Board of Review of Motion Pictures, Inc.), and Unbiased Opinions of Current Motion Pictures which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

ad—adventure
bio—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
trav—travogue
war—dealing with the lives of people in wartime

A	B	C		
—	6	9	Abandoned (Woman)	soc-dr A
—	5	9	Abbott and Costello Meet the Killer, Boris Karloff	com AYC
—	4	—	Across the Rio Grande	wes AYC
—	5	1	Adam and Evalyn	dr A
2	6	4	Adam's Rib	com A
4	10	3	Adventures of Ichabod and Mr. Toad, The	mus-car-c AYC
1	4	2	Affair Blum, The	dr A
—	3	4	Agitator, The	dr A
—	4	3	Alias the Champ	com A
5	6	5	All the King's Men	soc-dr A
—	9	2	Always Leave Them Laughing	com A
—	2	1	Amazing Mr. Beecham, The	com A
—	3	—	Ambush	wes AYC
—	2	8	And Baby Makes Three	com A
—	3	2	Angels in Disguise	cri-mel A
—	2	11	Anna Lucasta	dr A
—	4	—	Apache Chief	mel A
—	9	2	Arctic Fury	mel AYC
—	3	7	Arctic Manhunt	cri-mel AYC
—	3	—	As You Like It	com AY
—	2	3	Bagdad	adv-c A
—	7	2	Bandit King of Texas	wes AYC
—	2	3	Bandits of El Dorado	wes A
—	4	7	Barbary Pirate	mel A
—	2	2	Battle of the Rails, The	war-dr A
5	7	2	Battleground	war-dr A
—	2	12	Beyond the Forest	dr A
2	5	4	Bicycle Thief, The	dr A
—	7	5	Big Wheel, The	mel A
—	3	2	Black Book, The	mel A

A	B	C		
—	2	3	Black Midnight	wes AYC
—	2	6	Black Shadows	doc-c A
—	1	5	Blazing Trail, The	wes AYC
—	3	4	Blondie Hits the Jackpot	com AYC
—	8	5	Blue Lagoon, The	adv-c A
—	3	4	Bodyhold	dr A
—	6	8	Border Incident	cri-mel A
—	9	7	Bride for Sale	com A
—	6	3	Brimstone	wes-c AYC
—	3	3	Captain China	mel A
—	4	1	Challenge to Lassie	dr-c AYC
—	11	7	Chicago Deadline	cri-mel A
—	4	5	Chinatown at Midnight	cri-mel A
1	5	11	Christopher Columbus	hist-dr-c AYC
4	2	—	Cinderella	mus-car-c AYC
2	12	2	Come to the Stable	dr AYC
—	3	2	Conspirator, The	mys-mel A
—	3	4	Counterpunch	com A
—	4	1	Cowboy and the Indians, The	mus-wes-c AYC
—	1	5	Dalton Gang, The	wes A
3	6	1	Dancing in the Dark	mus-com-c A
—	1	7	Dangerous Profession, A	cri-dr A
—	3	3	Daring Caballero, The	wes A
—	4	4	Deadly is the Female	cri-mel A
—	5	1	Dear Wife	com A
—	6	3	Deputy Marshal	mus-wes AYC
—	6	2	Devil's Henchmen, The	cri-mel A
—	8	10	Doctor and the Girl, The	dr A
1	2	7	Dolwyn	dr A
—	8	1	Down Dakota Way	mus-wes-c AYC
—	5	1	Down Memory Lane	com AYC
—	2	3	Earth Cries Out, The	war-dr A
—	2	1	East of Java	mel A
—	5	5	East Side, West Side	dr A
—	6	7	Easy Living	dr A
2	12	2	Everybody Does It	mus-com A
—	6	2	Facts of Love, The	com A
—	1	10	Fame is the Spur	dr A
—	1	2	Fantastic Night	fan A
—	1	13	Father Was a Fullback	com A
—	3	7	Fedlin' Rhythm	mus-wes A
—	3	7	Fighting Kentuckian, The	hist-dr A
—	4	6	Fighting Man of the Plains	wes-c A
—	1	2	Fighting Redhead, The	wes-c AYC
—	1	4	First Front, The	war-dr A
—	8	—	Flame of Youth	mel A
—	3	2	Flight into France	war-dr A
—	1	8	Forgotten Women	dr A
—	9	8	Fountainhead, The	dr A
—	1	5	Francis	com AYC
—	1	2	Francois Villon	dr A
—	3	6	Free for All	com AYC
—	3	—	Frustration	dr A
—	7	4	Gal Who Took the West, The	mus-wes-c A
—	3	—	Gay Lady, The	mus-com-c A
1	3	8	Germany, Year Zero	war-dr A
—	7	6	Girl in the Painting, The	war-dr A
—	6	6	Give Us This Day	dr A
—	4	—	Golden Madonna, The	dr A
—	6	1	Golden Stallion, The	mus-wes-c AYC
—	3	3	Grand Canyon	com-c AYC
—	7	8	Great Lover, The	com A
—	5	10	Great Sinner, The	dr A
—	1	2	Guilt of Treason	dr AYC
—	4	—	Gun Runner	mus-wes AYC
1	5	1	Hasty Heart, The	war-dr AY
6	10	1	Helena, The	dr A
—	3	—	Hidden Room, The	cri-mel A
—	3	5	Hold That Baby	com AYC
—	10	1	Holiday Affair	com AYC
—	2	8	Holiday in Havana	mus-com-c A
—	—	3	Hollywood Burlesque	mus-com A

A	B	C		
—	3	Horseman of the Sierras	wes	AYC
—	1 10	House Across the Street, The	cri-mel	AY
—	11 1	I Married a Communist	mel	A
1	12 2	I Was a Male War Bride	war-com	A
—	—	Ichabod and Mr. Toad, see Adventures of		
—	1 2	Incragible	dr	A
—	3	Indian Scout	mel	AYC
—	4 2	Inspector General, The	mus-com-c	AY
—	1 2	Interference	dr	A
3	7 7	Intruder in the Dust	soc-dr	AY
—	2 5	It Happened in Europe	war-dr	A
2	8 3	It's a Great Feeling	mus-com-c	A
—	5 2	Jiggs and Maggie		
—	—	in Jackpot Jitters	com	AYC
—	5	Johnny Holiday	dr	AY
5	11 2	Jolson Sings Again	mus-biog-c	A
—	3	Judge, The	cri-mel	A
—	1 5	Just a Big Simple Girl	com	A
—	1 4	Katrina	dr	A
—	3 7	Kid from Cleveland, The	dr	AYC
—	3 6	Kiss for Corliss, A	com	A
—	6 2	Lady Takes a Sailor, The	com	A
—	6 2	Laramie	mus-wes	AYC
2	12 1	Lost Boundaries	soc-dr	AY
—	4	Lost Youth	cri-mel	A
—	7 4	Love Happy	mus-com	A
—	—	Love Story	dr	A
1	5 11	Madame Bovary	dr	A
—	5	Maid of Formosa	dr	A
—	5 5	Make Mine Laughs	mus-com	A
—	4 2	Malaya	war-mel	A
—	3 2	Man on the Eiffel Tower, The	cri-mel-c	A
—	3	Marked Girls	dr	A
—	1 9	Mary Ryan, Detective	cri-mel	A
—	4 4	Masked Raiders	wes	A
—	1 3	Master Minds	com	AY
—	4 3	Master of Bankdam	dr	A
1	5 4	Miss Grant Takes Richmond	com	A
—	4 4	Mr. Soft Touch	mel	AYC
—	5 1	Mrs. Mike	dr	A
—	3 4	My Brother Jonathan	dr	A
1	4 4	My Foolish Heart	soc-dr	A
—	8 7	My Friend Irma	mus-com	A
—	4 3	Mysterious Desperado, The	wes	AYC
—	1 4	Nail, The	mel	A
—	3 4	Navajo Trail Raiders	wes	AYC
—	3	No Room at the Inn	dr	A
—	9 8	Not Wanted	soc-dr	A
—	9 5	Oh, You Beautiful Doll	mus-com-c	A
—	5	Omoo-Omoo	adv	A
1	10 —	On the Town	mus-com-c	A
—	12 3	Once More, My Darling	com	A
—	4 8	Once Upon a Dream	com	A
—	2 10	One Last Fling	com	A
—	2 1	Outcasts of the Trail	wes	AYC
—	1 4	Paid in Full	dr	A
1	12 1	Passport to Pimlico	com	AY
—	1 4	Peddler and the Lady, The	dr	A
—	2 2	Peddlin' in Society	dr	A
4	14 2	Pinky	soc-dr	A
—	3 4	Pirates of Capri, The	adv	A
—	6 2	Port of New York	cri-mel	A
—	5 4	Post Office Investigator	cri-dr	AYC
1	8 2	Prince of Foxes	hist-dr	A
—	2 7	Prison Warden	cri-mel	A
—	2 5	Project X	cri-mel	A
—	3 3	Queen of Spades, The	dr	A
—	1 3	Range Justice	wes	AYC
—	5 1	Ranger of Cherokee Strip	wes	AYC
—	5 5	Reckless Moment, The	mel	A
—	10 6	Red Danube, The	war-dr	AYC
6	10 10	Red, Hot and Blue	mus-com	A
—	4 5	Red Light	dr	A
—	1 2	Renegades of the Sage	wes	AYC
—	3 —	Return of the Black Eagle	mel	A
—	3 2	Riders in the Sky	mus-wes-c	AYC
—	3 —	Riders of the Range	wes	AYC
—	2 4	Rigoletto	mus-dr	A
—	2 5	Rim of the Canyon	mus-wes	AYC

A	B	C		
—	4 5	Ringside	dr	A
—	2 3	Roll, Thunder, Roll	wes-c	AYC
—	10 7	Rope of Sand	mel	A
—	10 8	Roseanna McCoy	mel	A
—	6 1	Rugged O'Riordans, The	dr	AYC
—	7 1	Rusty's Birthday	dr	AYC
—	7 3	Saints and Sinners	dr	A
—	4 6	Samson and Delilah	dr-c	A
—	2 6	San Antonio Ambush	wes	AYC
—	3 1 2	Sands of Two Jima	war-dr	A
—	2 2	Satan's Cradle	wes	A
2	14	Savage Splendor	doc-dr-c	A
—	2 1	Shadows of the West	wes	AYC
—	2 2	Shamed	dr	A
5	12 2	She Wore a Yellow Ribbon	wes-mel-c	AYC
—	2 1	Side Street	cri-mel	A
—	2 3	Silent Dust	war-dr	A
—	3 —	Skyliner	mel	AYC
—	6 7	Slattery's Hurricane	mel	A
—	2 3	Somewhere in Berlin	dr	A
—	3 1	Somewhere in Europe	dr	A
—	2 1	Son of a Badman	wes	AYC
—	3 —	Son of Billy the Kid	wes	AYC
—	1 9	Song of Surrender	mus-dr	A
—	2 3	South of Death Valley	wes	AYC
—	2 4	South of Rio	wes	AYC
—	4 —	South Sea Sinner	mel	A
1	5 4	Spring in Park Lane	com	A
—	4 —	Square Dance Jubilee	mus-wes	AYC
—	5 7	Story of Molly X, The	cri-mel	A
—	7 6	Story of Seabiscuit, The	dr-c	AYC
—	8 5	Strange Bargain	myst-mel	A
—	4 1	Strangers in the House	dr	A
—	3 2	Sunshine Follows Rain	dr	A
1	10 5	Sword in the Desert	war-mel	A
2	8 3	Task Force	war-dr-c	AYC
—	4 3	Tell It to the Judge	com	A
—	5 2	Tension	myst-mel	A
—	1 7 7	That Forsyte Woman	dr-c	A
2	9 2	That Midnight Kiss	mus-dr-c	AY
—	4 3	Thelma Jordan	mel	A
—	3 2	There's a Girl in My Heart	mus-dr	AYC
2	13 3	They Live by Night	cri-dr	A
—	—	(previously reviewed as The Twisted Road, CR Bul. March 1949)		
—	10 7	Thieves' Highway	cri-dr	A
—	3 —	Third Man, The	cri-mel	A
—	6 2	Threat, The	cri-mel	A
—	7 2	Tight Little Island	com	A
—	6 8	Tokyo Joe	war-dr	A
—	15 5	Top o' the Morning	mus-com	AYC
—	2 4	Tough Assignment	cri-mel	AYC
—	3 —	Trail of the Mounties	cri-mel	AYC
—	3 5	Trail of the Yukon	adv	AYC
—	4 —	Trail's End	wes	AYC
—	3 2	Train Goes East, The	com-c	A
—	6 3	Trapped	myst-mel	AYC
—	1 5	Treasure of Monte Cristo	myst-mel	A
1	3 —	12 O'Clock High	war-dr	A
—	1 7 7	Under Capricorn	dr-c	A
—	1 10	Under the Sun of Rome	war-dr	A
—	4 6	Undertow	cri-mel	A
—	4 —	Vautrin, the Thief	dr	A
—	1 4	Vilna Legend, A	dr	A
—	5 5	Weaker Sex, The	com	A
—	4 —	West of El Dorado	mus-wes	AYC
—	1 2	Western Renegades	wes	AYC
—	5 3	Whirlpool	dr	A
2	8 5	White Heat	cri-mel	A
—	1 5	Wild Weed	mel	A
—	5 6	Without Honor	mel	A
—	6 —	Woman in Hiding	mel	A
—	2 4	Wyoming Bandit, The	wes	AYC
—	5 11	Yes Sir, That's My Baby	mus-com-c	AYC
2	8 3	You're My Everything	mus-com-c	AYC
—	4 —	Young Guard	war-dr	A
—	4 —	Youth of Athens	war-dr	A
—	1 8	Zamba	adv	AYC

The Consumers' Observation Post

(Continued from page 4)

Court in Camden, N. J., a jury returned a verdict upholding the action of the Food and Drug officials in seizing 88 cases of the product. The issue was essentially whether the beverage under ordinary conditions of purchase and use appeared to be a soft drink, or whether it appeared to be orange juice. The company denied that any adulteration was involved since the product was harmless, was properly labeled, and was marketed as a soft drink. The case will provide an interesting legal precedent if yellow colored margarine becomes widely available and it should be found that some users mistake it for butter and assume it has the same food qualities as butter.

THE CONSUMER'S OBJECTIONS TO OVERFAT PORK have finally registered, and something may be done soon to improve the present basis for grading hogs. The Production and Marketing Administration of the U. S. Department of Agriculture has circulated proposed grade standards based not only on the quality of the meat, but also on the ratio of lean to fat, both determined by carcass length measurements, or weight and thickness of back fat. It will undoubtedly be years before this trend really shows up extensively in the butcher shop, but in the meantime consumers can hasten the appearance of lean ham, bacon, and other pork cuts by complaining loudly whenever someone attempts to sell them potential lard at meat prices.

HOMEMAKERS who employ domestic help for 26 days in any three months and who pay them \$25 or more within such a three-month period must deduct social security from such payments, if the Social Security bill passed by the House in the last session of Congress goes through the Senate this year. At least, that is the way the Washington (D. C.) Times Herald appraises the situation. The newspaper further notes that it will be necessary to keep records of such employment and report in detail all such transactions when the lady employer remits the tax money to the U. S. Treasury. The "hired girl," mother's helper,



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IF you want us to enter your name on our advance list of orders to receive the 1950-51 edition of the Annual Cumulative Bulletin, scheduled for September 1950, just add \$1.75 to your remittance. The Annual Cumulative Bulletin summarizes a wide range of CR's previous findings and, in addition, presents much new and important information that has not appeared in any other CR Bulletin. It is a confidential issue, available only for the personal use of an individual and his immediate family. (Sorry, no schools or libraries.)

YOU WILL FIND A CONVENIENT ORDER BLANK ON THE NEXT PAGE.

maid, and even the weekly cleaning woman will certainly become mythical characters of ancient times if the provision becomes law, for few women would want to bother with the amount of red tape involved.

OILY RAGS tucked away in a closet often catch fire all by themselves. Scientists don't fully understand the causes of spontaneous combustion, but the only way to avoid it, advises the National Board of Fire Underwriters, is to take preventive measures. The experts suggest: throw away oily rags; keep oily mops where air circulates freely around them or, better still, keep them in metal cans; do not store combustible materials in the attic.

EGG SHAMPOOS have been the subject of action by the Food and Drug Administration for misbranding. The products involved did not contain sufficient amounts of egg to be properly labeled egg shampoo. The brands for which the false and misleading claims were made were: Doris Drake Egg Shampoo, Helene Curtis Egg Shampoo, LaMaur Egg and Lanolin Shampoo, and Caryl Richards Eggfoam Shampoo. It might be well to point out that reputable dermatologists are not agreed that an egg shampoo does anything special for a woman's hair anyway, even if it has an adequate amount of egg in it.

RECENTLY TESTED:

Wax-Seal (Munising Paper Co., 135 S. LaSalle St., Chicago 3), a self-sealing wax paper that sells for 69 cents for 200 ft., or 35 cents for 100 ft., about the same price as the more expensive waxed papers of the conventional sort used for wrapping and covering of foods, is available from department and house furnishing stores. One side of the paper is heavily waxed; the other is coated with a pressure-sensitive adhesive that sticks to itself (and only to itself, according to the manufacturer). The new paper proved very useful in home trials because it was very easy to cut off the size that was wanted and then press the edges together to make a package, without the necessity of using special wrapping techniques or looking for string or a rubber band. Wax-Seal was especially convenient to use over the top of jars or bottles and for hard-to-wrap foods like lettuce. In laboratory tests it was found that Wax-Seal was about as efficient as the best of the waxed papers previously tested (such as Hamersley) in preventing loss of moisture from wrapped materials. This may have been the result chiefly of the good seal that could be obtained with Wax-Seal, rather than any special moisture-barrier properties of the Wax-Seal paper itself.

Consumers' Research, Inc. Washington, N. J.

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PHONOGRAPH RECORDS

BY WALTER KRUEHNER

Please Note: In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended. Although nearly all new releases of serious music are heard, space narrows comment, generally, to items which merit high ratings.

Beethoven: *Concerto No. 5 ("Emperor").* Clifford Curzon (piano) with the London Philharmonic Orchestra under Szell. London LP 114. \$5.95. The work, a shining light among piano concertos, belongs in every library of serious music. But the recording I would choose for this honor is the Schnabel-Stock-Chicago Symphony set Victor 939, one of the five most outstanding sets ever issued. No question that this new London disk offers a virile, well-phrased performance and wide range recording, though woolly at times and, occasionally, in the middle and lower ranges, mushy. Moreover, near the end the pitch drops. Interpretatively, there is a plus value in the Victor set. There is, too, firm, round recording (though a little less brilliant in the high end) and more surface noise. . . . For the curious, my four remaining "outstanding sets of all time" are the Beecham *Messiah*, the Glyndebourne *Don Giovanni* and *Figaro* and the Koussevitzky *Italian Symphony*. My five outstanding single records, electrically recorded, are the Toscanini *Italiana in Algeri Overture* and *Lohengrin Prelude*, the Caruso *Celeste Aida* (dubbed accompaniment electrically recorded), Rethberg's *Willow Song from Otello*, and the Budapest Quartet's playing of Wolf's *Italian Serenade*.

Interpretation A
Fidelity of Recording A

Brahms: *Sonata in F Minor* (Op. 5). Julius Katchen. London LP 122. \$5.95. Among Brahms' best early works, with a particularly lovely slow movement. The young American soloist brings it to life. Some surface scrapes but in other respects it is first rate.

Interpretation AA
Fidelity of Recording AA

Elgar: *Cockaigne Overture.* London Philharmonic Orchestra under Van Beinum. 4 sides, London Set 96. \$5.25. A rich, perky concert overture which dates from the beginning of the century. Adroit conducting and performance. Roundly recorded in The Kingsway Hall, London.

Interpretation AA
Fidelity of Recording AA

Prokofiev: *Cinderella & Gordon: The Kake's Progress.* Royal Opera House Orchestra, Covent Garden under Braithwaite and Lambert. Columbia LP 4229. \$4.85. Ballet music used with success by the Sadler's Wells Ballet. Prokofiev sounds like the 20th century, Gordon like the 19th — but neither is distinguished here. Superb performance. Full bodied recording. Some fuzziness in higher registers and wavering of pitch.

Interpretation A
Fidelity of Recording A

Prokofiev: *Concerto No. 3.* William Kapell (piano) with the Dallas Symphony Orchestra under Dorati. 6 sides, RCA Victor Set WDM 1326. \$3.35. A dynamic, witty, 30-year-old concerto that now appears on symphony programs only occasionally. Kapell outplays Mitropoulos who, in Columbia Set 667, is soloist and conductor. The recording of both sets, by today's standards, falls below the best, though they are satisfactory. Side 6 of the Victor set slipped for a few seconds causing pitch variations which do not appear in the score! I hasten to report, however, that the 45's seem to slip only seldom now due to an improvement in the design of the label area. Overall, Victor offers the better Prokofiev.

Interpretation AA
Fidelity of Recording A

Puccini: *Madame Butterfly.* Steber, Tucker, Valdengo, Madeira, etc., under Rudolf. Columbia LP 4225. \$14.55. Better than a routine performance of an opera which stands among Puccini's best. Luscious voiced Eleanor Steber seems below par. Rudolf keeps things moving admirably. Spacious recording with fine balance between voice and orchestra. Compared with Victor Set 700, no one in the Columbia set approaches Gigli, though Tucker comes nearest. Dal Monte, too, is a law unto herself. What style in the Victor performance! Victor's oldish recording shows at a disadvantage,

however, for the orchestra is not as richly nor as prominently recorded as Columbia's and Dal Monte's highest tones blast now and then.

Interpretation A
Fidelity of Recording A

Respighi: *Concerto Gregoriano.* Richtart (violin) with the Städtisches Orchestra of Berlin. 7 sides (1 blank side), Deutsche Grammophon Set 19. \$11.55. Apparently, first recording of this concerto which is rarely played. It consists of much filigree, little inspiration. Taken on its own impressionistic terms, it doesn't quite come off here for the violinist lacks the mite of contrasting bravura necessary, though he has polish and sensitivity. Firm orchestral support. The 1945 recording brings the violin well forward but with insufficient bite. Excellent balance with the orchestra which is recorded with resonance.

Interpretation A
Fidelity of Recording A

Wagenseil: *Symphony in D Major.* Städtisches Orchestra of Berlin under Gmeindl. 3 sides (1 blank side). Deutsches Grammophon Set 22. \$6.30. A simple, entrancing work of a pre-Classical Viennese composer not otherwise represented on records. Gmeindl's feeling for the idiom is obvious. For 1940, richly reproduced though thin on top, by today's standards.

Interpretation AA
Fidelity of Recording A

Wagner: *Siegfried* — Act 3, Scene 3. Farrell, Svanholm with Rochester Philharmonic Orchestra under Leinsdorf. 10 sides, RCA Victor Set WDM 1319. \$5.25. The dramatic closing scene of *Siegfried* needs more thrust and excitement than we get here. On the credit side, the voices sound appropriately youthful. But the nuances of a more experienced artist than Eileen Farrell are missing. Impressive recording with commendable balance.

Interpretation A
Fidelity of Recording AA

Great Tenor Arias. Richard Tucker. Columbia LP 4248. \$4.85. *Pearl Fishers, Pagliacci, Cavalleria, Aida, Rigoletto, Martha*, etc. Tucker shows signs of developing into an uncommonly good tenor. While unevenness, lack of style and contrast are evident in the singing of these 10 arias, they are worthy of repeated hearing. Tucker is well recorded. The orchestra is heavily biased yet it is less round and high than the orchestra on Valdengo's operatic disk, London LP 115. Overall, there's a lot here for the money.

Interpretation A
Fidelity of Recording A

Operatic Recital by Giuseppe Valdengo (baritone). London LP 115. \$4.95. Devoted, emotional performance in good taste of five arias from *Hamlet, Pagliacci, Rigoletto, Faust*. Wide range recording with splendid orchestral resonance and volume.

Interpretation AA
Fidelity of Recording AA

Songs of Tosti. Valdengo (baritone). London LP 116. \$4.95. *L'Ultima Canzone, April*, etc., sung in Neapolitan style. Recording favors the voice over orchestra and buzzes slightly in loudest passages.

Interpretation A
Fidelity of Recording A

RECOMMENDED SINGLE DISKS

COLUMBIA: Contralto Nikolaidi sings a *Semiramide* aria on 3-400. VICTOR: Pianist Ania Dorfmann features Mendelssohn's *Rondo Capriccioso* on 49-0618. Violinist Milstein plays *Wieniawski* and *Stravinsky* on 49-0614.

If your dealer does not carry all the records I discuss, why not consider ordering by mail from a reliable dealer who does? If you know of none, I suggest you order from the following New York City shops with which I have dealt. All welcome mail orders. Elaine Music Shop, 9 East 44 Street; Sam Goody, 853 Ninth Avenue; The Gramophone Shop, 18 East 48 Street; Liberty Music Shops, 450 Madison Avenue.

